

# Manufacturers Record

Reg. U. S. Pat. Office

## Industry Construction



BALTIMORE, MD.

DECEMBER 24, 1931



## The Spirit of Christmas

Within this vast country at this Christmas Season, despite a tremendous depression and harrowing anxiety, we are witnessing an epochal application of the teaching of Him who said:

"As ye would that men should do to you, do ye also to them likewise."

Proper appreciation of the interdependence of capital, industry and labor has brought out as never before the feeling of responsibility of the employer to the employed. Cooperation, the brotherhood of man, service are subjects of universal discussion. Individual concerns and great corporations are doing more for their workers than ever before. Employee and employer insurance plans, proposed by industrial leaders, are being widely considered to protect employes in sickness, in old age and in unemployment.

Organized relief for the needy has been undertaken on an immense scale. Communities everywhere are raising extraordinary sums for the benefit of those in distress. Giving of both time and money to others less fortunate has reached heights of generosity and in many cases actual sacrifice that demonstrates the humanitarianism of the American people. All races and creeds, every stratum of society are participating in a nation-wide benevolence.

This season of rejoicing and good-will finds America with a pronounced determination to apply the spirit of Christmas in a very real sense. There has come about, undoubtedly through refining experience, a broader spiritual outlook. It is always so with men of proper mold.



## CASTINGS

ELECTRIC FURNACE CARBON AND ALLOY STEEL  
SEMI-STEEL  
IRON — BRONZE — ALUMINUM

## FORGINGS

LIGHT — HEAVY — DROP

## GALVANIZING

HOT DIP PROCESS — TO MARINE STANDARD  
ONLY PRIME WESTERN ZINC USED  
LARGEST POT — 3'-0" x 3'-6" x 27'-6"

**Newport News Shipbuilding and Dry Dock Company**  
**NEWPORT NEWS, VIRGINIA**

**90 Broad Street, New York City**

---



TO MEET ALL CONDITIONS

## Simplicity itself!

Only two main shafts!  
Only thirteen gears above the deck!  
Only one engine!  
No chains to stretch!  
Drums hung low bringing greater stability and accessibility!  
High speed shafts mounted on ball bearings on rigid steel castings, not to be compared with weaving "A" frames!

## A crowd for rock!

Handles 25% harder digging!  
Digs without the 25% loss of power always present where separate mechanisms are used to hoist and crowd!  
Delivers 25% more power at the dipper lip!  
— and brings independent reach beyond the boom without the hoist cable pulling against the crowd!

## A crawler for the hardest going!

The Northwest patented crawler base gives you positive traction while turning as well as while going straight ahead!  
It steers without swinging the cab!  
Small diameter rollers form a firm foundation for every tread and keep them from jamming up when traveling over rails and stones!

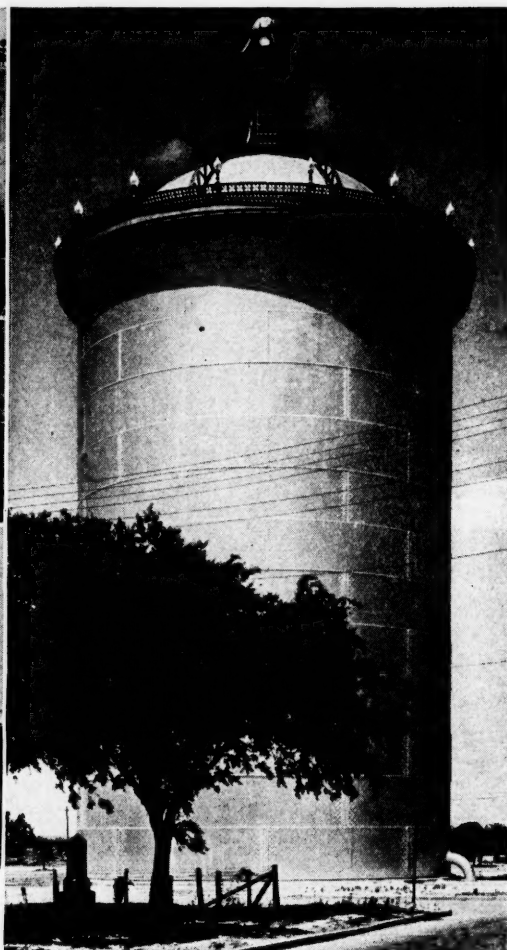
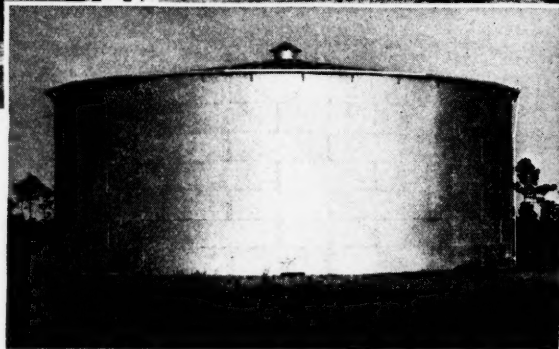
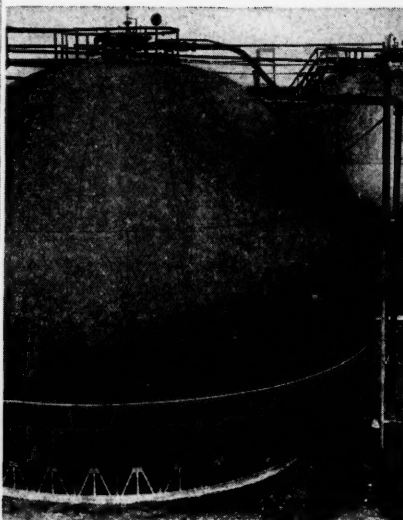
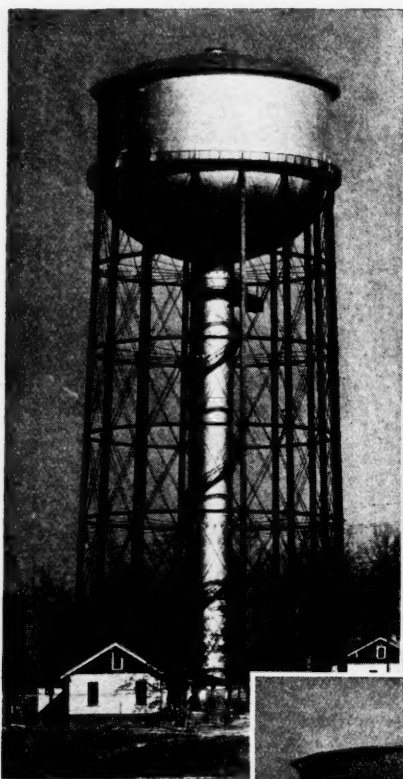
THIS IS  
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3

HANDLE  
**25%**  
HARDER  
DIGGING

NORTHWEST



# TENNESSEE STEEL



## for TANKS HIGH and LOW

**S**URFACE tanks, elevated tanks, standpipes—wherever a tank is to be built, and whatever is to be its use or capacity, the choice of proper material and the sound application of design and workmanship are alike indispensable. Satisfactory to the eye and serviceable for the purposes of the owners, the tanks here illustrated are examples of a very wide range of types in which Tennessee Plates and Shapes are being used. Write for full information.



### TENNESSEE COAL, IRON & RAILROAD COMPANY

General Offices: Brown-Marx Building, Birmingham, Ala.

*Subsidiary of United States Steel Corporation*

AMERICAN BRIDGE COMPANY  
AMERICAN SHEET AND TIN PLATE COMPANY  
AMERICAN STEEL AND WIRE COMPANY  
CARNEGIE STEEL COMPANY

PRINCIPAL SUBSIDIARY  
COLUMBIA STEEL COMPANY  
CYCLONE FENCE COMPANY  
FEDERAL SHIPBUILDING AND DRY DOCK COMPANY

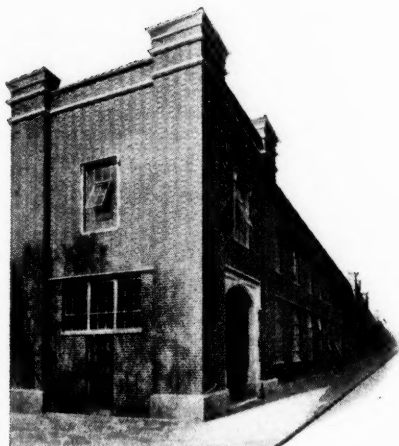
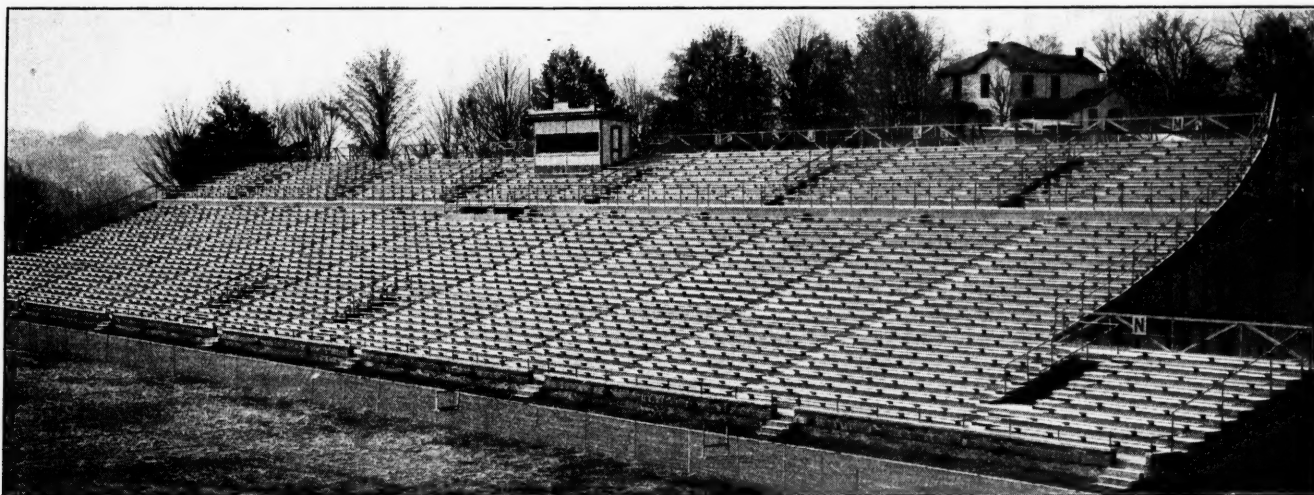
MANUFACTURING COMPANIES  
ILLINOIS STEEL COMPANY  
MINNESOTA STEEL COMPANY  
NATIONAL TUBE COMPANY

OIL WELL SUPPLY COMPANY  
THE LORAIN STEEL COMPANY  
TENNESSEE COAL, IRON & R. R. COMPANY  
UNIVERSAL ATLAS CEMENT COMPANY

Pacific Coast Distributors—Columbia Steel Company, Russ Building, San Francisco, Calif.

Export Distributors—United States Steel Products Company, 30 Church Street, New York, N. Y.





Here is a steel stadium, its deck and seating arrangement almost identical to the W & L Stadium above. But in this case the back and underpart has been utilized for 8 regular-size classrooms, an auditorium, armories, dressing rooms, showers, etc., at a considerable saving for combined facilities. We built this stadium for the Woodlawn High School, Birmingham, Ala.

## Seats, and More Seats

A few years ago we built a steel stadium for Washington and Lee University at Lexington, Virginia. Recently they had us enlarge this stadium to provide more seats for their football games. They have been highly pleased with what we have given them both as to design and cost.

Our steel stadium is a steel supporting frame with a steel deck, and then with raised wooden seats on steel brackets. It is a precise, economical and altogether durable design. Incidentally the seat and foot arrangement is the most comfortable that has ever been devised for outdoor stands.

We have built a number of steel stadia of different size and arrangement, some with more architectural treatment than others; some with a watertight deck and the space under it finished up for use as class rooms, dressing rooms, etc. Steel is always the most adaptable construction material, and its use in a stadium enables economies and facilities that cannot be had otherwise and withal a low first cost and low upkeep.

We shall be glad to furnish designs and estimates, or just talk it over, with no obligation whatever assumed or implied.


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BRIDGE**  
*Steel Structures*





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Ingalls manufactures all kinds of structural steel, plate work, shapes, storage tanks, standard buildings—and stocks a complete line of warehouse steel. Quotations made promptly.

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**.... STANDARD ....**  
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 City Savings Bk. Bldg., Albany, N. Y. 26 Victoria St., London

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Steel Bridges

Jail Cells

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 BINS, LADLES

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**WHITE  
 MOUNT AIRY**

THE NORTH CAROLINA GRANITE CORP'N.  
 Mount Airy, N. C.





*We Wish You*  
*a*  
*Merry Christmas*  
*and a*  
*Prosperous New Year*

**EARLE GEARS**

**THE EARLE GEAR & MACHINE CO.**  
4719 Stenton Avenue  
Philadelphia, Pa.



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ENGINEERS

CHEMISTS

GEOLOGISTS

CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

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City Bank Bldg., SHREVEPORT, LA.

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River Improvement Work  
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progress of the South, read the  
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GEORGIA

MUNICIPAL IMPROVEMENTS

We design and construct Water-Works, Electric-Light and Sewer Systems—Paving and Road Work.

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For Buildings, Bridges, Dams and all kinds of Minerals

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Diamond Core Drill Contractors

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Materials for Steel and Concrete Structures  
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Offices in All Large Cities

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WE LOOK INTO THE EARTH  
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★

★

# The Telephone

*helps Skelly Oil increase business and cut costs*



THE Minneapolis division of Skelly Oil Company uses the Telephone Plan of Market Coverage regularly to contact 1000 persons. In a single day, 42 car-

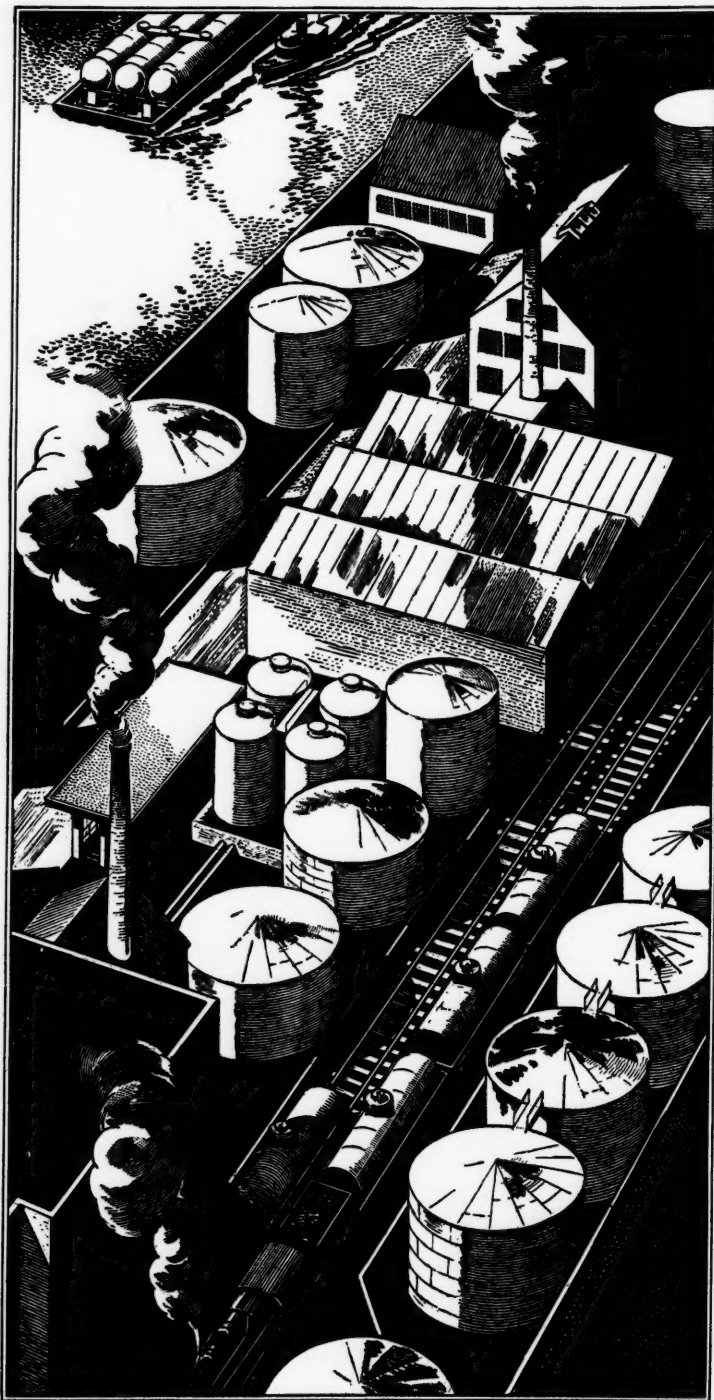
loads of petroleum products valued at \$24,000 were sold by Long Distance at a telephone cost of \$110.65. In one month, the plan produced 167 sales, amounting to \$293,080, at a selling cost of \$1008, or less than 1/2 of 1 per cent.

Trained telephone salesmen carry on the work for Skelly Oil. Two-thirds of all calls are made to existing customers, one-third to prospective ones. Prospects are not approached "cold"; they are first visited by the salesmen in person. The telephone sales work does not supplant the salesmen's personal visits; it supplements them.

The telephone is used not only for sales, but for making collections, building good will, announcing price changes to the wholesale trade. Telephone reminders urging customers to telephone their orders collect are attached to outgoing sales correspondence.

Telephone charges are low. Typical station-to-station day rates: New York to Boston, \$1; St. Louis to Kansas City, \$1.15; Memphis to Savannah, \$2.35.

The Telephone Plan of Market Coverage was developed by the Bell System to help its customers increase their business and cut costs. An experienced telephone representative will gladly study the specific needs of your company and explain how the various features of the plan can be applied to meet them.



JUST CALL YOUR BELL



TELEPHONE BUSINESS OFFICE



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Baltimore, Md., December 24, 1931

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## MANUFACTURERS RECORD

**MAIN OFFICE**  
Manufacturers Record Building,  
Commerce and Water Streets,  
Baltimore, Md.

Published Every Thursday  
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PUBLISHING CO.**  
FRANK GOULD, President

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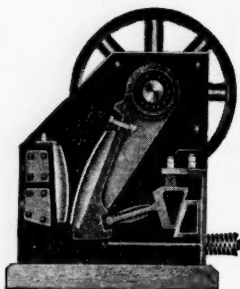
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Reg. U. S. Pat. Office

Devoted to the Upbuilding of the Nation Through the Development  
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## Railroad Revival Imperative

**A**S a guide and an incentive to immediate relief for the railroads, the annual report of the Interstate Commerce Commission is a feature of national import. Relief for the railroads without loss of time is an imperative necessity. Provision for future profitable operation would mean more for the business welfare of the country than probably any individual factor in the economic category.

There is \$22,780,000,000 capital investment in the rail transportation system. Action must be prompt, for the safety of the investment and the earning of a fair interest return cannot be delayed without grave danger to the national economic stability.

Normally, the railroads disburse approximately \$5,000,000,000 a year to industry and trade and to the people as direct and indirect owners. Dividends declared in 1930 ran to \$511,000,000 and fixed charges, largely interest, to \$703,800,000 more. Average annual purchases by Class 1 roads ran to \$1,258,000,000. In the fiscal year 1931, the Class 1 roads paid \$2,356,000,000 to 1,391,000 employees. This mighty stream of dollars is drying rapidly. The source is clogged and must be cleared.

The net operating income of the railroads sagged from \$1,262,000,000 for 1929 to \$874,000,000 for 1930, or 30 per cent, according to the Interstate Commerce Commission report. Freight revenue for Class 1 roads declined from \$4,815,000,000 to \$4,075,000,000, or 15 per cent, and passenger revenue from \$872,400,000 to \$728,400,000, about 16 per cent. The number of all railroad employees dropped from 1,660,000 to 1,487,000, and their compensation from \$2,896,000,000 to \$2,500,000,000. And, of course, the year 1931, for which figures are not yet available, makes a much more unfavorable showing.

"Recent events are a warning that remedial measures cannot safely be longer delayed," says President H. D. Pollard of the Central of Georgia Railroad, and his opinion is corroborated by actual facts.

The Interstate Commerce Commission makes 19 distinct and specific recommendations to the Congress for legislation. Most important of these are a renewed suggestion for repeal of the so-called "recapture" provisions and recommendation for the same governmental control of interstate auto truck and bus operation as that to which the railroads are subject.

In again advocating repeal of the recapture clause, the report repeats that the Commission is convinced that, "because railroad earnings will inevitably fall below the standard level in times of business depression, they may properly be permitted to rise above it in times of prosperity." Also, it stresses "the need for maintaining an adequate national transportation system and the consequent need for maintaining railroad credit."

A bill for governmental control of interstate commercial motor transportation has been introduced in Congress, and the Commission plans to report on its own investigation on "coordination of motor transportation."

Of the advisability—of the necessity for immediate legislation on these two subjects, there can be no question.

For their part, there is much—very much that the railroad managements can do for relief. It is considered that there are very favorable possibilities for railroad revival in Consolidation. Practical and workable economies are easily discernible and, it may be said, are recognized in railroad circles. Cancellation of expensive trains now operated at a loss for "prestige" would abate a tremendous expense. Duplication of stations is mentioned by a railroad veteran as a point for possible retrenchment. These and other possibilities for economy must not be overlooked.

The readjustment of railroad wage scales to a parity with those paid to workers in other industries is essential in the program. Desire to reduce wages 15



per cent has been expressed by the railroad executives, and also conferences will be held on a plan for a voluntary concession of 10 per cent by the railroad employees.

The importance of the railroad situation cannot be exaggerated. On the earning power of the railroads depends the income, in whole or part, of tens of thousands of men, women and children, direct or indirect holders of such securities. The legal reserve life insurance companies alone hold \$2,986,000,000 of railroad securities. Trust companies and other fiduciaries carry a tremendous total. The welfare of these investments is a moral, as well as financial, obligation and responsibility.

On the earning power of the railroads depend \$400,000,000 a year of business for the iron and steel industries, \$356,000,000 annually for the fuel producers, \$156,000,000 for the lumber and timber trades and \$346,000,000 for other business, ranging from \$2,000,000 for automotive equipment through \$27,000,000 for dining car and restaurant supplies up to \$52,000,000 for metals and metal products. These are Class 1 purchases, alone.

On the earning power of the railroads depends much of \$2,800,000,000 in annual pay for the railroad workers, and work for 1,500,000 employees.

The welfare of this wealth-producing and wealth-distributing industry is in dire jeopardy. Collapse of the railroad financial structure must be averted right now. The Congress and the railroad management, as trustees for the owners and responsible to American industry and business, must act quickly and effectively.

## Confidence in the Banks

**B**ELIEF that "present currents of public sentiment are running toward a revival of confidence in banks" is a reassuring expression from W. Espey Albig, American Bankers Association, in an analysis of the composite national savings account. Funds, he finds, are returning from unsafe hiding places into "the safeguards of established financial institutions," in areas where confidence had temporarily wavered.

Money deposited as savings in banks is used in two widely varied ways, Mr. Albig points out. In some sections, "savings deposits are largely utilized in the financing of home building, in improving real estate in cities, and in other long-time investments." In others, they are used "for the purchase of goods or investments."

As of June 30, 1931, savings deposits totaled \$28,214,000,000, as compared with \$24,690,000,000 for 1926 and \$16,500,000,000 for 1921. At the close of the World War, the total savings deposits equaled about half the total indebtedness of the United States Government; at present, the total is almost twice as great as the Government's aggregate debt.

## Highway Development Essential

**S**UCCESSFUL efforts have been made and plans are under consideration to further divert gasoline taxes and motor vehicle revenues to other than road-building purposes. At the same time the per gallon gas tax rate has increased. Counties and townships are making a strong plea for the allocation of highway building funds to maintain and build roads on state routes, and even cities have justifiable claims for a portion of the funds for certain streets that comprise links in through state routes. Because roadbuilding has not kept pace with the increase in motor transportation, highway builders, students of highway finance and the motoring public agrees that those who seek to divert road revenues to the building of schools, airports, ports, seawalls, drainage projects, etc., seriously impair highway development at a time when road facilities are still far from adequate.

With the increased rate of gas tax imposed in the majority of the states the possibilities for evading payments have been multiplied and strenuous measures have been introduced by several states which have discovered evasions running into millions of dollars. The prevention of this leakage of funds that should go to the building of highways demands exhaustive efforts on the part of those seeking to further the highway industry.

There has been an insistent demand this year for greatly increased Federal funds for highway building, to the end that the construction program of the various states may not lag and that the unemployment situation may be improved. During 1931 Federal Aid and Emergency Federal funds were important factors in the continuation of highway building in volume. During 1930 highway treasuries in numerous states were practically exhausted, and increased Federal allotments alone made possible a continuation of the highway programs in those states. Federal Aid funds to states being expended solely under Federal supervision not only stimulate highway activity but raise the standards of construction directly on state systems and indirectly on secondary and local systems.

There are numerous factors favorable to the development of secondary and local highways at the present time. Many states have primary systems well on the way to completion, and more attention should be given to the huge mileage of secondary roads, the greater part of which has been untouched. State aid to counties is increasing as state systems approach completion. There is a trend toward the absorption of township mileage by counties. Recent developments of satisfactory low-cost surfacing make possible the construction of larger mileages at lower costs than ever before, and work is provided for farmers in off seasons.

Future development of secondary and local highways is primarily dependent on the development of a sound financial and administrative set up, which should include close co-operation of the various inter-



ests and the distribution of state and county highway funds on an equitable basis. At the present time secondary and primarily local systems of highways are being administered and financed by various methods in different states. Several of them have taken radical steps in financing and administration methods. It is doubtful if any two of them are operating alike. In Iowa, counties have absorbed township highways. Michigan is following the same procedure over a five-year period. The entire county highway system of North Carolina has been taken over by the state. Pennsylvania recently absorbed into the state system 20,000 miles of township roads.

The annual review of highway construction and maintenance in the Southern states will be published in the MANUFACTURERS RECORD of January 7. Detailed facts as to what has been accomplished and forecasts of future trends and activity in construction, as in the past, will emphasize the importance of highway development to the nation.

## Emigration Exceeds Immigration

**A**N excess of 22,700 alien emigrants from the United States over the number of alien immigrants in the first nine months of 1931 marks a reversal of the trend of migration which has prevailed from the very beginning of the republic. The condition has not been brought about wholly by the tightening of our immigration laws, because in every previous depression a large number of aliens have returned to their native land. Nevertheless, in the effort to substitute quality for quantity in the peoples seeking entry into the United States, our present measures for better control of immigration have been applied at a most opportune time.

Unemployment of American citizens, bad as it is, certainly would have been even more acute had the former immigration rate prevailed. And our present situation would be improved if the voluntary departure of aliens could be augmented by an increase in the deportation rate of undesirables.

## Price Stability

**C**OMMODITY prices have been more stable during the last few months than at any time in the last two years, says the National Foreign Trade Council. Wholesale prices have held within 2 per cent of the index for last June in contrast with the drop of 11 per cent in the first six months of this year and in further contrast with the accumulated reduction in average wholesale prices in the United States of more than 25 per cent since 1929. As the Council emphasizes, the slowing down of price declines in many important commodities is a prime requisite for sustained business improvement.

## The Obstructionists

**W**ITH the improvement in the textile demand there has been a tendency for some cotton mills to return to night work. As 84 per cent of the spindle capacity of the South, through the Textile Institute, is definitely committed to shorter operating hours and the elimination of night work for women and minors, there is danger that the minority 16 per cent will nullify the effort of the industry to better balance production to demand. The majority of mills believe that by cooperating with each other the industry as a whole can be placed on a more profitable basis.

Of course, it is the individual producer's privilege to operate his plant in a manner that will assure the highest efficiency and profit. It is against human nature for the manufacturer to refuse an order or refrain from following his judgment if immediate prospects for increased sales are good because it would mean an extension of working hours. Some of the mills which are thus operating independently are being charged with obstructing the stabilizing efforts for the benefit of the industry. As the Charlotte Observer says:

"It appears that there is only one block in the road to restored prosperity for the textile industry and that is persistence in night work by a small minority of the cotton mills of the South.

"Most manufacturers and customers are now convinced that the principal reason for this tendency to produce more goods than are wanted is because, 'a comparatively small number of the mills insist on running their plants day and night for long hours.' They thus take business away from other mills that would be content to run at reasonable schedules and make it necessary for some mills to close entirely and for others to run only part of the time. Under the leadership of the Cotton Textile Institute and other manufacturers associations, four out of five of the mills have now ceased to employ women and children at night and have undertaken to keep their hours of work down to reasonable limits. These plans are made, not only for the purpose of helping the mill workers, but also to prevent this evil of over-production. It is believed that the low prices at which cotton goods are now being sold are chiefly due to the fact that a few of the mills, as stated, continue to run their properties on an unreasonable basis and hence are obliged to sell their excess goods at sacrifice prices.

"If this practice were stopped buyers would have more confidence and when they again began to buy goods in large quantities the prices would improve and the mills could afford to pay better prices for their cotton."

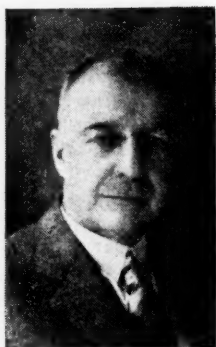
In view of the fact that it has been difficult to get the textile industry to unanimously agree upon a plan of curtailment as a constructive method, suggestions are being made to force such a step through legislation. There are about 1200 cotton manufacturing establishments in the United States, and through their associations they have worked together in more or less accord for the protection and benefit of the industry as a whole. It is to be regretted that a few cotton manufacturers seem to be willing, for temporary gain, to pursue a course which is detrimental to the whole industry.

With the clouds of depression lifting on the textile horizon, the responsibility of every cotton textile manufacturer is increasing. The need for greater cooperation to bring the industry back to prosperity is all the more urgent.



# Fortifying the Banking Situation

By JOHN M. MILLER, JR., Director of the National Credit Corporation for the Fifth Federal Reserve District and President of the First and Merchants National Bank, Richmond, Va.



John M. Miller, Jr.

**P**ROMPT and sound organization of the local associations of the National Credit Corporation throughout the Fifth Federal Reserve District is of significance as demonstrating the stability of this section of the South and its readiness promptly and actively to cooperate in practical movements for not only local but for the national welfare. The Fifth Federal Reserve District embraces the District of Columbia, Maryland, North Carolina, South Carolina, Virginia and West Virginia.

As of December 15, the membership in this district had subscribed over \$20,000,000 to the gold notes of the corporation. This is the original estimate made by the director for subscriptions, and the indication is that additional subscriptions received from time to time will aggregate probably \$25,000,000. The subscription of each bank is measured by 2 per cent of its net deposits, not however to exceed 10 per cent of the capital and surplus of the subscribing bank.

In this district, we have something over 1500 national and state banks, trust companies and savings banks, and there is every reason for genuine gratification on the volume of the subscriptions and on the promptness with which they are being made.

It has been said and widely accepted as true, that the South will be the first section to feel the economic recovery, which is inevitable in this great country.

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*Confidence is the bright background of the accompanying article by John M. Miller, Jr., on the organization of the Fifth Federal Reserve District section of the National Credit Corporation of which Mr. Miller is director. The prompt formation of this division is an expression by the South of confidence in itself and in the Nation, and in no small measure is a reason for general national confidence in American stability.*

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The bankers of the Fifth District desire to take a leading part in promoting this recovery. The economic foundation of the South is sound, the spirit of the South is cheerful and the general morale encouraging. We do not propose to sit passively patient but to be actively constructive.

There is an abundance of money and credit in the national aggregate, and many of our banks are unusually liquid, and are not only willing but have subscribed liberally to the gold notes of the National Credit Corporation in order that other banks with sound but non-liquid assets may be helped.

The purpose of the National Credit Corporation is to see that this cash and credit flows freely to the places where most needed. Cooperation amongst the banks of the country was never more needed than now, and was probably never more exemplified than in the organization and successful operation of the National Credit Corporation.

Broadly speaking, the National Credit

Corporation is a temporary supplement to the Federal Reserve system, designed to handle loans for member banks on notes and other securities not eligible for loans and rediscounts at the Federal Reserve Bank. The purpose is to mobilize and mass the credit resources of each reserve district and through these 12 districts, the entire country into one solid organization, from which money and credit can flow from areas where not needed to those where most needed. Thus, an equilibrium of money and credit is established.

Especially in view of the magnitude of the operation, the process is simple and straightforward. Member banks must subscribe for the corporation's gold notes to the amount of 2 per cent of their net deposits, not however exceeding 10 per cent of the capital and surplus of each institution. These notes are negotiable, will be issued in registered form and bear interest at the rate not exceeding 6 per cent, if, when and as declared by the directors of the National Credit Corporation. A fixed rate of interest cannot be determined any more than a dividend on stock of a corporation can be determined far in advance.

Expenses of the corporation must, of course, first be provided for and, if any, losses are borne by the National Credit Corporation. Such expenses and losses must come out of the interest received by the corporation. The capital stock of the National Credit Corporation is only \$1200, divided among the 12 directors, each of whom owns one share of a par value of \$100. These certificates of stock have been duly endorsed and lodged with the Governor of the Federal Reserve Bank of New York, in trust, for the purpose of control at all times of the members of the board of directors. There seems to be no possibility of the corpora-



tion getting into the hands of irresponsible directors.

The real money at the command of the National Credit Corporation comes to it from the sale of the gold notes and in a large measure takes the place of stock.

The corporation was suggested by President Hoover to alleviate conditions in trade, commerce and securities throughout the United States. Many securities have doubtless been thrown on the market and sold at sacrifice prices because it was difficult for the owner to borrow against those securities. Trade and commerce in many instances have suffered from lack of credit from local institutions. The corporation has already evidence of much improvement in the conditions just referred to.

Money of the corporation can only be borrowed by member banks through their local loan associations, of which there are probably one hundred throughout the United States. There are six loan associations in the Fifth Federal Reserve District. No bank will be admitted to membership except upon its subscribing to its full quota of gold notes. Subscriptions for less than the full quota will not be accepted. Every bank must come in on the same basis. Individuals or corporations may subscribe for the gold notes but they cannot borrow directly from the corporation.

The rate of interest on loans made by the corporation is to be not less than 6 per cent. In some states the associations may require a higher rate. It is not intended that borrowing from the corporation shall be for inflationary purposes or that any bank can borrow money for the purpose of expanding the business of the bank. Money is to be loaned to member banks through the local association only when necessary and on sound, collectible collateral, though not necessarily liquid. Borrowing banks must be, in the opinion of the local association, solvent, and the necessity for the loan and the soundness of the collateral is a matter of judgment for each association. The director of each district must approve loans made by the local associations. After that, the local association's note, secured by the borrower's note and collateral, must be approved by the board of directors or the executive committee of the National Credit Corporation.

In the case of the board of directors and executive committee of the corporation, a majority of the entire board or committee is necessary for affirmative action. Furthermore, a member of every loan association guarantees severally but not jointly the obligation to the National Credit Corporation in proportion to the holding of the individual bank in the local association.

Each loan association selects its own loan committee from its ablest and most successful bankers and that committee has the cooperation of every member bank in ascertaining the soundness of each and every security offered the association. The class or type of paper eligible for loans cannot be specified in definite terms. The loan committee has to determine whether paper is good and collectible and likely to be liquidated within a reasonable time.

The board of directors of the National Credit Corporation, believing that the need for this corporation will terminate when conditions become nearer normal, reserves to itself the right to discontinue making new loans at the expiration of any year, from October, 1931. This does not mean that all loans to the corporation are expected to be paid at such time but that no new loans are to be made and the process of liquidation of the corporation begins.

Gold notes of the corporation, as above stated, are negotiable and may be sold or hypothecated. It is believed that they will liquidate in full with interest. The amount of interest cannot be determined in advance, owing to the expenses and possible losses that cannot be accurately estimated.

Many banks in the Fifth Federal Reserve District do not themselves need this organization but they are subscribing cheerfully, both as a business proposition and as a patriotic movement. Small banks are freely coming into the organization. No bank can foresee definitely whether it will need the help of the corporation but membership in the associations is an additional safeguard and protection for depositors and borrowers of such institutions.

The prompt and businesslike manner in which our banks have entered into this constructive movement is additional proof that the South is doing its full share in combating the depression, and we shall be in the forefront when the march to prosperity is resumed.

I omitted to say that the 12 directors of the corporation have been selected, one from each Federal Reserve District. They were selected not hastily but after due advice from competent authorities for their ability, high standing and known success in the banking business.

The officers and executive committee of the corporation are not sectional bankers but those with a broad vision and from various sections of the United States, every section being well represented. No salaries or fees are paid to officers and directors, only necessary salaries to subordinate officers and clerks whose very living depends upon their daily efforts.

Probably no corporation of this magni-

tude has ever operated on as small an expense ratio, as will be that of this corporation.

Payment on the gold notes will be in installments and in such amounts and at such times as seem most reasonable and convenient to the subscribing members.

The monies of the corporation are being deposited only in the Federal Reserve Banks of the 12 districts. No favoritism of any kind is shown to any director, officer or member of the corporation.

The cooperation of the member banks with their loan associations and through their loan associations with the corporation, so far, has been perfect. It is believed that the bankers of the United States realize more than ever that earnest, sincere cooperation will be the solution of many of the trials and tribulations of trade and commerce in the unusual times which we are experiencing.

### \$25,000,000 Utilities Budget

Louisville, Ky.—According to President John J. O'Brien of the Standard Gas and Electric Company, Chicago, of which the Louisville Gas and Electric Company is a subsidiary, the preliminary construction budget for 1932 of Standard Gas and Electric will total over \$25,000,000. Projects under construction which will not be completed in 1931, representing a cost of \$3,508,000, are included in the budget figures for 1932. Engineering and construction services on projects included in next year's budget will be rendered by the Byllesby Engineering and Management Corporation, Chicago, wholly owned subsidiary of the Standard Gas and Electric Company. Expenditures proposed on Southern properties of the company include \$893,298 for the Kentucky-West Virginia Gas Company, Chicago; \$1,381,130 for the Louisville Gas and Electric Company, and \$1,573,496 for the Oklahoma Gas and Electric Company, Oklahoma City.

### \$1,000,000 Postoffice Bids

Montgomery, Ala.—Bids will be opened January 5 in the office of Jas. A. Wetmore, Acting Supervising Architect, Treasury Department, Washington, for construction of a new postoffice building here, for which plans and specifications have been prepared by Frank Lockwood, Montgomery. The structure will entail an expenditure of \$1,045,000, including \$200,000 as the cost of the site, and in addition to housing the post office will provide space for Federal court rooms and offices.



# Signs of Better Business

LIFE INSURANCE written during November, amounting to more than \$846,000,000, as reported by 44 companies representing 82 per cent of the industry showed a decrease of only 1.7 per cent compared with November, 1930, states the Association of Life Insurance Presidents. For the 11 months ending November these companies wrote \$9,967,000,000 of new business, or 12.2 per cent less than during the corresponding months of 1930. These figures indicate that the life insurance business of the United States is making a better production than general industry is making in this depression period.

INGALLS IRON WORKS, Birmingham, Ala., has leased a portion of the shipbuilding plant of the Tennessee Coal, Iron & Railroad Co. at Chickasaw near Mobile, and will assemble water craft there. Work is under way on a dredge for which 850 tons of steel are being fabricated in Birmingham and being shipped by barge down the Warrior River. Last year the company purchased a fabricating plant at Verona, near Pittsburgh, Pa., and is now operating it. The Birmingham Tank Works, an Ingalls subsidiary recently took over the Hartsfield Steel Co., at Birmingham and is producing drums and steel containers. Ingalls some time ago fabricated steel for 10 barges constructed at the plant of the Alabama Dry Docks Co. at Mobile.

H. C. FRICK COKE Co., subsidiary of the United States Steel Corp., announces that 50 coke ovens, located near Mt. Pleasant, Pa., which have been idle for more than a year, have been reopened.

GOODYEAR TIRE & RUBBER Co. will speed up production of its Gadsden, Ala., plant on January 4 from 4000 to 5000 tires daily. Officials of the company announce the increased production will mean an increase from the present schedule of three 6-hour shifts, working four days a week, to three 8-hour shifts working five days weekly.

AUBURN AUTOMOBILE Co. in ten days has placed orders for materials to be used in the production of cars in the first three months of 1932, calling for an expenditure in excess of \$11,000,000. More than 100 companies in 11 states share in these commitments.

COTTON MANUFACTURING improvement, especially in the print cloths market which has been demoralized because of over production and price cutting below cost has been noted, following curtailment by a group of mills heretofore not cooperating with other producers who have been seeking to regulate production to demand.

CHRISTMAS TRADE in many cities has been encouraging. Sales in many lines have been decidedly better than had been anticipated.

THE OKEECHOBEE (Fla.) trucking section is having one of the best seasons in its history. The Everglades News reports that 300 cars of vegetables have been shipped in one week and that so far this season more than 1500 carloads have been sent to Northern markets. This is three times the shipments for the same period of 1930.

REGULAR DIVIDEND payments since the company was organized in 1915 will be continued by the General Tire and Rubber Company, by a regular quarterly dividend of \$1.50 a share on preferred stock, payable December 31. This is the 58th consecutive dividend on preferred stock.

LUMBER orders and shipments continued through the week ended December 12 to be higher than the limited production by the industry. Cut for the week of 124,892,000 feet by 800 mills reporting to the National Lumber Manufacturers Association was 15 per cent below both orders and shipments. Production for the previous week was 121,124,000 feet as reported by 829 mills.

MUELLER BRASS Co., Port Huron, Mich., reports an increase of 296 per cent in sales of streamline copper pipe and Mueller patented fittings for the fiscal year ending November 28, as compared with the preceding year. Sales totaled \$448,555, in spite of the fact that the building market has shown a decline over this same period and that copper prices are down.

MCBRIDE GLASS Co., Salem, W. Va., has placed in operation plant No. 2, recently purchased by Thos. F. and James McBride from the Salem Novelty Glass Co. It was recently remodeled.

STEEL COMPANIES in the Pittsburgh district have recalled thousands of unemployed workmen, providing Christmas cheer for many homes in the way of pay checks and full dinner pails. The Wheeling Steel Corp. called back 1100 men. Westinghouse Air Brake Co. announced it would call back a large number of former employees. Puritan Coke Co. announced receipt of new orders necessitating employing many former employees.

HARDWARE DEMAND has been larger than was anticipated in most of the nation's leading market centers and it promises, in some instances at least, to equal or exceed sales figures for the corresponding period of 1930, states Hardware Age. The improvement has been marked in the Memphis, Atlanta, Cincinnati and Boston hardware markets, while gains of more moderate character are reported in other trade territories.

BELK BROS. DEPARTMENT STORE, Charlotte, N. C., announces that a 15 per cent increase in volume of business has been done to date this year in its furniture department as compared with last. Prospects of showing an even greater increase, when the December total is added, are bright.

SUN SHIPBUILDING Co., Chester, Pa., will start construction next month on two of the largest freight-carrying ships in the world. They are to be built on order of Seatrain Lines, Inc., and will ply between Norfolk, New Orleans and Havana. The vessels will be 475 feet over all, 63-foot beam and will have a depth of 38 feet. Receipt of the order, officials announce, not only averts a cut in the working forces, previously planned, but also necessitates the adding of about 1000 men to the payroll. Cost of the two vessels will be approximately \$1,600,000 each.

AMERICA'S CANDY INDUSTRY, whose output has been cut less than 5 per cent since 1929, expects this year's holiday season to provide "at least its normal impetus" to sales, and looks forward to better conditions next year. To date the output has been only 2 per cent below that of 1930. While prices have declined sharply, the volume of business done is about on a par with record-breaking years.



# Coal Operators Take Initial Step to Stabilize Industry

[Special Correspondence Manufacturers Record.]

Charleston, W. Va., December 19.

Through the organization of regional sales agencies, leading bituminous coal operators in the producing states east of the Mississippi river have expressed their belief that the ruthless and ruinous competition that has brought the industry perilously near the brink of exhaustion can be successfully terminated.

Confronted by chaotic conditions within the industry, accentuated by a general depression that has curtailed production in 1931 to less than 400,000,000 tons—the first year since 1909 that production has fallen below that mark—coal operators have taken the initial step in the stabilization of the industry.

Regional sales agencies organized to check destructive competition were proposed by the National Coal Association in the Detroit annual meeting in 1930, but a practical plan of operation was not evolved until the current month when a general meeting of operators in New York, after two months of consideration, promulgated a plan that would legally permit their organization and operation.

Col. Wm. J. Donovan, New York, former assistant United States Attorney General, and familiar with the intricacies of the federal anti-trust laws, conferred with the coal committee and gave his opinion that the proposed plan was not violative of the federal laws inhibiting combinations in restraint of trade.

Under the terms of the plan the coal producers of the same district, or a series of districts producing coal of similar classification and characteristics, would organize a corporation designated as a selling agent for the purpose of selling and distributing coal on a commission basis for the producers who agree to appoint the corporation as their selling agent.

The coal producers and this general selling agent agree under the contract that the latter will establish standard classification based upon the suitability of coal for particular purposes, such as

domestic coals, gas coals, by-product coals, metallurgical coals and steam coals, and the selling agent is also authorized to establish a standard classification of sizes for the various grades from the mines of each producer.

Coal producers and the selling agent recognize the varying and seasonal demands for coal of different grades, uses and classifications. The contract definitely states that when the demand for their product is not sufficient to operate the mines under contract on a full time basis, then the participation of the producer for the month after the contract is in effect shall be the per cent of the total sales made by the selling agent that the total car allotment of the producer for the three months preceding bears to the total car allotment of all the producers under contract to the selling agent.

Trade-names of various coals that have found ready markets will be protected by the regional sales agencies. The selling agent agrees in so far as possible to sell the producer's coal in the markets, to the same customers and under the same trade-names and will maintain the good-will of the producer.

The selling agent is required under the agreement to sell the coal of the producer at the best prices obtainable with due regard to the quality, preparation and classification of the product, but is inhibited from making contracts for future deliveries from the mines of the producer after 60 days from the date of the contract.

Under the regional sales plan the coal producer may designate any person or corporation to act as a sub-agent of the chief selling agent, thus maintaining sales agencies now in existence but placing them under the direction of the corporate selling agency created by the agreement.

To prevent glutting the market with coal during adverse marketing conditions and the sub-agent making sales in

excess of the pro rata share of the producer, the general agency shall have the right to offer to other producers of like character of coal the excess tonnage sold.

Declaring it is the intent of the agreement "to provide for an orderly and businesslike method of selling the coal of the producer" it is agreed that the latter "shall not produce, sell or ship any coal except upon the order and at the direction of the selling agent." Under the foregoing provisions the selling agent controls distribution and limits production to marketable quantities.

In a second agreement between the selling agent created by the producer and the sub-agents, the latter are appointed by the former. The sub-agents agree to sell such coal as they have been authorized to sell "upon such terms and conditions and at the price or prices established by the selling agent from time to time."

Provision is made in both contracts that in the event of a controversy arising between the parties to the agreement, it shall be referred to a board of arbitration of three disinterested persons.

The plan evolved by the Appalachian operators for regional sales agencies to eliminate excessive evils of disorderly competition resulted after an exhaustive study by coal producers of many plans that have been offered during the past year for stabilizing this basic industry. Some of these plans advocated federal control and regulation of the coal mines. Others proposed uniform legislation in the larger coal-producing states to control production. Panaceas were offered with greater frequency as production declined during the current year.

On October 5, 1931, Governor W. G. Conley, of West Virginia, called a group of West Virginia operators into conference requesting that they act speedily to preserve the coal industry from complete paralysis. The West Virginia executive had frequently suggested that the operators should solve their own problems,



and that they were entirely capable of so doing.

After this conference the West Virginia operators requested President C. E. Bockus of the National Coal Association to call a meeting of representative operators to discuss the problems of the industry. President Bockus asked the directors of the national association in those states east of the Mississippi river to assemble in New York City on October 21. The directors were authorized to invite other representatives of the industry. At this first general conference, J. G. Bradley, of Dundon, W. Va., was named chairman and the conference heard advocates discuss the numerous plans suggested for alleviating the ills of the industry.

A special committee of 14, of which E. C. Mahan, of Knoxville, Tenn., was chairman, was appointed by Chairman Bradley to study the numerous proposals offered for the betterment of conditions in the bituminous industry.

The committee made its report to another general conference of operators at a subsequent meeting held in New York on December 4. In its report, the committee of 14 expressed a preference for consolidations of physical properties in the producing districts, reciting, however, that it would require considerable time to make such mergers owing to the various physical and financial problems of different properties and also to the depressed state of trade and business.

As an initial step, however, the committee recommended the plan of forming regional or district sales agencies, through which the coal produced in the individual districts can be more advantageously and economically sold and distributed. Col. Donovan had advised the committee that he found no insuperable legal difficulties in the way of establishing such district or regional agencies.

Within a week after the conference at New York had given unanimous approval to the formation of regional sales agencies, a meeting of 150 operators was held in Cincinnati on December 10 and 11 to give consideration to this plan. These operators represented the high volatile mining districts of Kanawha, Logan and Williamson in West Virginia; Big Sandy, Harlan and Hazard in Kentucky; Southern Appalachian district in Tennessee, and the Southwest Virginia district.

These eight districts produced in 1929, 87 million tons of coal and in 1930, 78 million tons. The production from these districts in the consuming markets is classified as high volatile coal. By practically unanimous vote, the operators at the Cincinnati conference expressed their tentative desire to organize a single regional sales agency embracing the entire eight districts in these four states,

rather than one agency for each of these producing districts. A general committee of three operators from each of the districts was selected, with C. C. Dickinson, of Charleston, W. Va., as chairman to consider the plan evolved at the New York conference, and to make such revision of the draft as the committee believed desirable.

This special committee was also directed to distribute to the individual operators in the eight districts a copy of the revised draft of the agreement and to have the district coal associations give consideration to the plan. The special committee also called another meeting to be held in Cincinnati on December 29 and 30, when reports will be received from the several district associations, revealing the sentiment of the individual operators toward the central sales agency plan. In the meantime, a subcommittee, of which James D. Francis, of Huntington, W. Va., is chairman, was directed to procure a charter for the new concern, to prepare its by-laws and report the entire scheme of organization to the coming Cincinnati conference.

Operators who were present at the New York and Cincinnati conferences are of the opinion that if 70 per cent of the tonnage in the eight high volatile producing districts will enter into the agreement, the regional sales agency plan will be effective. Some of the operators believe that more than 80 per cent of the production will be found working under the new agreement.

"We have not offered the Regional Sales Agency plan as a cure for all the ills of the coal industry," James D. Francis, who advocated the plan before the American Bar Association at Atlantic City last September stated at the Cincinnati conference. "We do think it is a step in the right direction and that it will result in the orderly marketing of this product, eliminating the unhealthy competition that has brought the industry to its present unstable condition."

### \$836,000 Bids on Veterans Home

Biloxi, Miss.—Low bids have been submitted as follows to the Veterans Administration, Washington, for the construction here of a Veterans Administration Home: General contract, National Construction Co., Washington, at \$542,000; elevators, Otis Elevator Co., Washington, \$20,248; steel water tank and tower, Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., \$7480; refrigerating and ice making plant, Columbus Iron Works, Columbus, Ga., \$13,948; nurses' quarters, garage, walks and other facilities, H. B. Nelson Construction Co., also of Columbus, \$57,500, and for plumbing, heating and electrical work, Electric Service Co., Laurel, Miss., at \$195,125. Plans for the buildings call for brick and frame construction, with slate or shingle tile roofs.

## Birmingham Airport Terminal

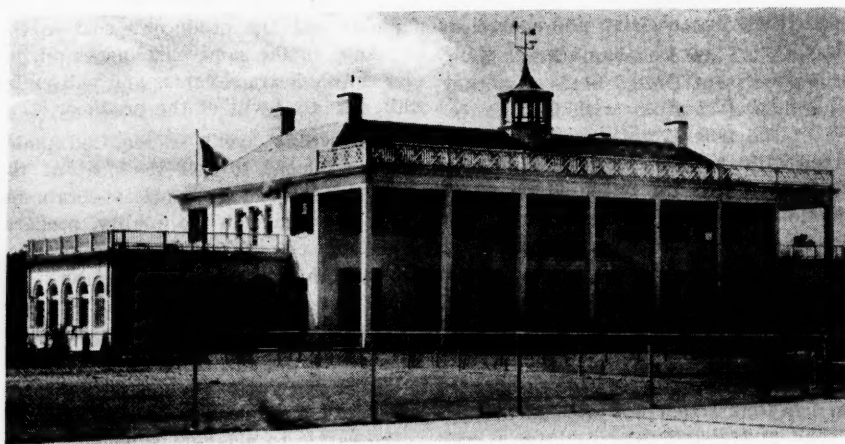


Photo Courtesy Birmingham Chamber of Commerce.

This colonial-type terminal building is a feature of Birmingham's \$1,000,000 municipal airport. Designed by E. W. Stanford, Birmingham architect, the structure has waiting rooms, ticket office, manager's office and private operators' offices; also, dining room for 70 persons, with complete restaurant service; lounges for male and female pilots; pilots' dormitories and private rooms; meteorological facilities and other appurtenances. A. J. Honeycutt, Birmingham, was the contractor. A steel hangar accommodating 25 planes is also located at the airport.



# Modern Art of Air Conditioning

**S**PEAKING before the Maryland Academy of Sciences in Baltimore on the Modern Art of Air Conditioning, Henry R. Sewell, manager air conditioning department of the B. F. Sturtevant Company, Inc., Boston, referred to the fact that ventilating systems were employed in early times. Marco Polo in his travels in the Orient in 1260 to 1300 observed that many houses were provided with ventilators and that, in some instances, pipes or tubes were fixed in walls, and open to somewhat cooler air. Mr. Sewell therefore pointed out that while many persons believe the installation of air cooling systems to be peculiar to the mechanical age, nature has always provided the fundamentals and man has taken advantage of them for his bodily comfort.

Describing modern methods, he said in part:

"Air conditioning is a very broad term and is generally applied to control of atmospheric conditions, within an enclosed space, as regards temperature, humidity, freedom from mineral or organic particles, and the circulation of the conditioned air. The classifications embrace: Heating, cleaning, heating with humidification, dehumidification and complete air conditioning—that is, cooling and dehumidification in the summer and heating and humidification in the winter, and cooling without control of humidification. The engineer has developed the process of air conditioning on the fundamental basis that air has several constant characteristics: (1) Air always tends to saturate itself with moisture; (2) it is of a gaseous nature and can be readily passed through various media, in order to remove objectionable mineral or organic particles; (3) it can be heated and distributed to maintain life in freezing weather, and (4) it can be cooled for more comfortable living conditions in summer.

"In air conditioning, the wet bulb temperature is most important, for, where compared with the dry bulb temperature to give the wet bulb depression,

it is a direct measure of the water absorption capacity of the air. For each degree depression of the wet bulb temperature a pound of air has capacity to absorb 1.4 grains of water.

"The mechanical age of heating began in about 1860, when B. F. Sturtevant made a mechanical fan and applied it to heating systems. The art of heating with mechanical fans is comparatively simple. The engineer needs only to know the temperature desired, and the space and type of building in order to calculate the heat loss that must be compensated for per unit of time. Then, he can accurately estimate the number of B. T. U.'s of heat required in order to raise the temperature of a known number of cubic feet of air per unit of time, and proportion his heating surface and mechanical fan to maintain a given temperature in an enclosed space. The heating may be accomplished by a central heating system, with ducts to various rooms; by means of self-contained unit heaters installed in selected locations, or by direct radiation.

"The art of cleaning air from dust and injurious mineral particles was developed in Europe, particularly in England, before it was applied in this country. In comparatively recent years, there has been invented and developed the so-called dry air filter. This is in the form of a mineral wool set into metal frames and the whole dipped in a viscous oil. The resistance through such a filter when it is about 1½ inches in thickness is only about one-eighth inch water gauge at 500 feet velocity, and the dust particles readily cling to the oil surfaces as air changes its direction working through the mineral wool. At periodic intervals, the frames are withdrawn, soaked in a soap solution, redipped in oil and placed back in their retaining frame. Manufacturers of cellulose lately have developed a very cheap type of filter made of this medium, which is so low in cost that the filter medium at necessary intervals can be withdrawn from the frame, burned and replaced with new material.

"From the time of the introduction of the spray type air washers, a few years ago, attention was directed to the fact that the spray washer gave a means of humidification, in connection with heating and ventilating work and also in industrial process work. The unit type of heaters, both for industrial and comfort use, has been more recently developed. Those for comfort use are largely known as unit ventilators, with a very quiet motor-driven fan, which either pulls its air from outdoors through wall grilles or recirculates it from the room. The fan draws its air through a dry air filter for cleaning and discharges air into the room through a heating radiator. The unit is adapted to automatic temperature control, both by control of steam to the radiator and by automatic mixing dampers which bypass air around the radiator. Spray humidification also has been attempted in connection with units of this kind. A late fundamental step forward was made by the basic transformation of a lightweight copper fin of extended surface radiation into water-holding saucers, the tubes of which are set vertically and filled from a falling stream of water. The resulting surface is used for a heating medium and also for a means of humidification.

"Early applications of humidity with heating came in the cotton textile industry, where it is very necessary to have moist air to enable cotton thread to be spun and to make it possible for the weaving rooms to work without continual breaking of the thread. Several means were used for this purpose, not only the central station type of humidifying air washer, but also live steam blown into the room or water spray heads, where water was finally atomized by steam or compressed air. For industrial purposes, we shall undoubtedly see an increasing use of a refined apparatus utilizing compressed air for the water spray, where industrial humidification is required.

"With the development of the spray type air washer and the working out of a system of control, the first applications



were made for industrial purposes, and complete air conditioning, including the maintenance of temperature as well as humidity the year round, came in the manufacture of chocolate and candy and in printing. Complete air conditioning was adopted in bakeries as a means of controlling the time of the rising process of dough; photographic materials and rayon require complete air conditioning—in fact, the rayon industry is absolutely dependent on air conditioning. The industry list includes ceramics, chemicals, cold storage, dyeing and bleaching, drugs, explosives, flour mills, food products, fur storage, matches, mining, paper, power generation, lumber, silk, tobacco and worsted.

"Perhaps the first comfort installation in the air conditioning field was made about 1902, in the New York Stock Exchange, where mechanical refrigeration and bunker coils were used in combination with a spray air washer. The motion picture theatre adopted comfort cooling, because increased summer patronage often made the installation pay dividends. In the theatre, the conventional system has largely been used, including the central station spray air washer; preheater and reheater steam coils for setting of humidity; control of water temperature in the washer by means of live steam in winter, and mechanical refrigeration in combination with boudelot coils for summer cooling and control of humidity. To keep down initial expense and cost of operation, a system was devised whereby only part of the air handled by the system need be treated.

"About five years ago, attempts were made to develop central station type air conditioning into unit form, and some fairly successful units were worked out. While such units are adaptable to industry where expert supervision and maintenance are available, the real field for their development and expansion did not come until relatively recent time.

"We are now finding that the heavy expense of the earlier complete central station type of air conditioning, with its complicated system of controls, and the expense of installing mechanical refrigeration equipment is not always necessary in the comfort field. It would seem that practically the main principle is dehumidification with a small amount of cooling.

"There are mechanical means of dehumidification without refrigeration. There are substances such as silica gel and alumina which are of a mineral nature and full of very minute pores which have the inherent characteristic of absorbing moisture from the air and retaining the moisture in liquid form within the substances. Such an installation requires two chambers, so that,

while one chamber is dehumidifying the air passed through it, the other chamber may be reactivated by driving the moisture to outdoors by the application of direct heat, the absorption bed cooled to atmospheric temperature by means of air or cold water pipes, and thrown back into service, while the other chamber is being reactivated.

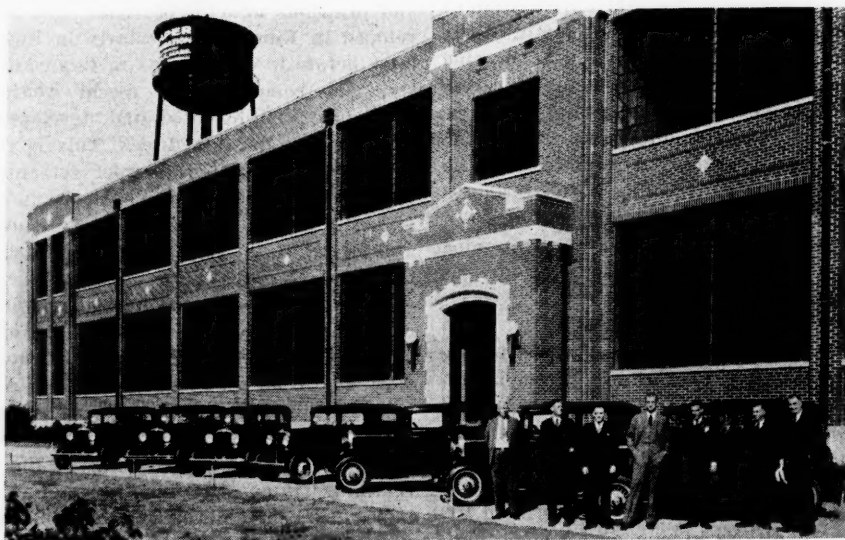
"Another method is the use of bulk ice as a dehumidifying and cooling medium. In this, ice is placed in a melting chamber and sometimes water is sprayed on the ice, and the resultant mixture of chilled water is drawn by a pump from a tank underneath the melting box, and circulated through a fin tube surface. Air is blown across the fin tube surface into the space to be cooled for comfort. The cold surface, being considerably below the dew point of the air, will condense out the humidity of the air and can be run off to convenient connection from a drip pan, and the cooled dry air mixed by the velocity of discharge, with the air in the enclosed space.

"Comfort may be obtained by dehumidifying, and by a small amount of cooling with air in gentle motion. Even small stores and restaurants, offices and residences, which heretofore have been unable to take advantage of comfort cooling because of the initial expense and heavy maintenance, may avail themselves of the advantages. Designers of apparatus are now able to give the public, at not too great cost, apparatus in unit form, such as the unit ventilator which has its self-contained, quiet operating power assembly of motor and fans; air cleaning dry air filter; steam

radiation for winter heating; humidifier for control of winter humidity and cooling surface for summer dehumidification without the practically unnecessary control of summer humidity. For cooling medium, bulk ice can be used where the cooling season is short or the hours per day for cooling are restricted, and where the expense of mechanical refrigerant is not indicated. Where outdoor conditions require a longer cooling season, such units may be used in combination with mechanical refrigeration, utilizing the newer field of refrigerants which do not carry temperatures down into the freezing range where cooling surface would become frosted.

"Many engineers are at work in this tremendous field and it is hard to prophesy the ultimate development. But the way is at least indicated for generally supplying bodily comfort, not only in winter by proper temperature and practical humidity, but also in summer by necessary dehumidification and cooling."

The lecture delivered by Mr. Sewell follows the policy of the Maryland Academy of Sciences in obtaining speakers from industrial fields who can describe the practical application of scientific development along engineering lines. The present board of trustees of the Academy, headed by Herbert A. Wagner, president of the Consolidated Gas, Electric Light & Power Company of Baltimore, as chairman, has emphasized scientific activities in their practical application. In addition, the institution has continued its activities in the realms of pure science. Frank A. Woodfield is executive secretary.



**Chevrolet Cars for Salesmen of Southern Firm**

The Draper Corp., Spartanburg, S. C., recently purchased these new automobiles for the use of its sales force.



# Optimism and Hard Work

## Bring Results

Wm. B. Joyce, chairman of the National Surety Company, New York, recently sent a questionnaire to 254 general agents and branch managers of the company, located in every state in the Union, referring to the volume of business written.

E. M. Allen, president of the National Surety Company states that an analysis of the replies received disclosed that at the end of October, 22 of the company's 38 branch offices located in widely scattered sections showed an increase in total volume of business written compared with the same period of 1930, and many general agents also reported increases, not only in lines written by the National Surety Company but in fire and casualty premiums as well.

The replies were almost unanimous in stating that there had been no decrease in the volume of premiums on fidelity bonds. Many offices reported that premiums on schedule bonds for individual concerns were lower because of reduced forces and a desire to economize, but almost all said they had been able to make up this decrease by selling new bonds to concerns that had not previously bonded their employees. One Southern agent summarized this as follows:

"Business men realize today, more than ever before, the necessity of bonding all their employees. While many of our individual premiums are smaller, we have more than made up this loss in new business and next year, when general business begins to pick up, we expect to increase our fidelity business at least 75 per cent."

The note of optimism regarding "next year" was quite generally reflected in all the replies, as evidenced by the following from Louisiana:

"It gives us pleasure to advise that the feeling which prevails here is of an optimistic nature. With this, plus real hard work, we look for satisfactory returns in the not distant future."

The replies regarding burglary insurance premiums reflected a situation similar to fidelity premiums. Chairman Joyce pointed out that in November, 1931, the company's agents had sold more new burglary policies than in any

other month in the company's history with the single exception of December, 1930.

The decrease in contract bond premiums was generally attributed to three factors:

1. Decrease in construction activities.
2. Unwillingness of agents and the company to bond contracts where the price was regarded as too low to permit the contractor to make a profit or to provide for unforeseen contingencies.
3. Activities of a few companies writing contract bonds at rates lower than the rates of a majority of the companies.

Views were received from an agent in West Texas, a representative of the company since December, 1919. Regarding the general business situation, he said in part:

"Fifteen years ago local merchants handled the farm machinery business. It is now handled by branch offices of large and powerful corporations. Fifteen years ago there were many oil and gasoline distributing concerns owned in this territory operating filling stations. Now our filling stations are practically all owned by large and powerful oil interests.

"Fifteen years ago, practically all our retail merchandising establishments such as dry goods, clothing, hardware, etc., were owned by local people. Now we have chain stores. The same condition exists with reference to industries of other types such as creameries, flour mills, cotton gins and compresses, and in fact everything that appeared to the monied interests to have a profit in it.

"We know that it is customary in these times of readjustment for each one to blame someone else. We, frankly, do not think the so-called depression has gone far enough yet, as it is going to be impossible for this country to get on a sound business before big interests are taught they cannot own all the retail concerns in the country and still have a large number of merchants to whom the wholesalers can sell their merchandise. Neither can insurance companies make special concessions to large concerns and allow brokers in large cities to cover nationwide organizations at much lower rates than the agents in the territory can write their merchants, who compete with the large organizations, and still get the same volume of business that

was secured before the time of the chain store.

"This letter is not written by an agency that has been crushed by the new system of things. We are still doing business and are able to pay our accounts, and have just as many on our payroll as we had one, three or five years ago. We are merely giving you our views."

Chairman Joyce and his associates expressed gratification at expressions of optimism contained in replies to the questionnaire, and at the many cases where agents and managers pointed out that their business was not decreasing and that longer hours and harder work afforded the explanation.

### \$500,000 Postoffice Bids

Texarkana, Ark.-Tex.—Bids will be opened January 11 in the office of Jas. A. Wetmore, Acting Supervising Architect, Treasury Department, Washington, for the construction of a new \$790,000 post office and courthouse to be erected in this city. The building will occupy a site, half of which is in Arkansas and the other half in Texas. Postoffice facilities will occupy the main floor, extending through the building, while one Federal district court will occupy the upper floors on the Arkansas side of the building and another on the Texas side. Witt, Seibert & Halsey, Texarkana, are the architects.

### Support the Railroads

The Riverside Mills of Augusta, Ga., are appealing for support of the railroads. Across the bottom of all of the company's outgoing letters the following message is stamped in red ink:

#### SHIP BY RAIL!!!

The Railroads are the Backbone of America! Rail transportation is America's second largest industry. Its future is being jeopardized by unregulated competition. This Country cannot be prosperous without prosperous Railroads. You will assist in developing prosperity by moving all your shipments by Rail. Consider the Army of people employed by Railroads. Consider the enormous taxes paid by Railroads.

#### THINK!!! SHIP BY RAIL!!!

Attention is called to this effort on the part of the Riverside Mills to help the railroads by Thos. M. Anderson, sales manager, originator of the idea, who explains that "such a suggestion, coming from us as manufacturers and shippers, will carry more weight than if it comes from the railroads. The railroads need a lift, a lift by shippers. The industry is the backbone of the country and should be protected and encouraged."



# IRON, STEEL AND METAL MARKET

## Seasonal Influence Dominates the Situation in Steel

Pittsburgh, December 21—[Special.]—Steel demand has decreased more than expected, the decline being equal to the larger year-end declines that have occurred in the past. Recently there was a theory that by an improvement in general conditions and by stocks of consumers being already so low there would be little or no decrease. The fundamental improvement is now seen to be lacking, while the seasonal influence is strong.

While stocks of steel in buyers' hands have certainly been light there is always a chance to whittle some more, and there is a very important incentive in several states, Michigan in particular, which tax January 1 inventories. Also, some plants are closed entirely, either on account of the holidays or to facilitate taking of inventory.

Steel ingot production last week was at about 25 per cent, three points under the preceding week and comparing with averages of 30 per cent in November and 27½ per cent in October. The month as a whole will scarcely average 25 per cent. Some sort of rebound is always to be expected for January, on general principles, but all members of the trade are very reserved in making predictions and do not speak of anything more than a mild improvement so early as January.

A Chicago producer of cold finished steel bars announced a reduction from 2.10c to 2.00c last Wednesday and other makers have been following at intervals, there being no haste as there is so little disposition to buy. The market is now 2.00c Pittsburgh, Buffalo, Cleveland and Chicago. An influence in the reduction was the decline in hot rolled bars in the Chicago market a few weeks ago from 1.70c to a range of 1.60c to 1.70c, Chicago, this being the raw material for cold finished bars. A complication is that the Pittsburgh bar market is still 1.60c, though subject to no little shading, and the question is whether the Pittsburgh market will decline or 1.60c become firmly established. In that case the \$2 differential of Chicago above Pittsburgh, prevailing more or less continuously for eight years, would be wiped out. Western consumers feel there is no reason for it, holding that production costs are as low in the Chicago as in the Pittsburgh district.

A little additional weakness is reported in hot and cold rolled strips and

chances seem slim of success in the effort to firm up prices for first quarter.

There is no little concern over the future of the steel price structure in general. While not a great deal of weakness has been shown, there is a contrast with the very stable market that prevailed for months. The notion is that once prices are dislodged at all there is no telling where they may go. There has been the cogent argument that mills have been losing money as it is, but that is by including various expenses that go on whether there is production or not, such as taxes and depreciation. While prices are comparatively low, mills get much more than their "out of pocket" cost on any given order.

The recession in steel demand has been rather general in character, but farm implement makers are reported to have bought a little more freely in the last few weeks. The automobile industry continues to procrastinate as to getting into heavier production and the accepted theory is that some makers are waiting on Ford, to see what the new car is to be like. The latest rumor is that the Ford plan has been changed, a V-8 to be made. Fabricated structural steel lettings have been very light since the beginning of October and nothing of consequence is expected until some time after the turn of the year, when financial conditions will be an important influence.

Steel producers have strong hopes that there will be progressive improvement during the new year but do not expect anything sudden or large. They feel that recent demand has been under actual requirements of the country going at its present pace, that some things have been allowed to run down, whereby there will have to be more buying merely to support the pace.

## Metals Are Steadier, Despite Mixed Trends

New York, December 21—[Special.]—Price changes among the metals have been somewhat mixed but as a general proposition the markets are steadier and it seems likely that the bottom point has been reached. Silver has been rising quite sharply, partly because Japan has gone off the gold standard, which is considered by many as a feather in the cap of silver. The price of copper has risen a cent per pound because of the better outlook in that industry. Tin is

over a cent per pound above the depressed levels of the preceding week because of higher sterling exchange. Zinc on the other hand has declined a trifle, to close to the low point of the year. Lead was reduced \$2 per ton at the start of the week to 3.75c per pound, New York, and 3.55c, East St. Louis, which corresponds with the low levels of the year, reached on two previous occasions.

This is normally a period of low industrial activity. Operations in the steel industry are no better than 25 per cent of capacity and probably will get down to 20 per cent during the last week of the year. The railroads and the building industry are slack buyers of raw materials just now. The automobile industry makes progress very slowly and conservatively. Buick, Chrysler and Chevrolet are expected to buy their raw materials for 1932 models shortly, but the Ford Motor Company keeps postponing purchases. Evidently the automobile manufacturers are inclined to await results of the January automobile shows before formulation of production schedules.

The tin plate makers, which had been the most active producers in the steel industry, have slowed down operations considerably, thus implying a smaller consumption of tin. The use of zinc in galvanizing operations is also low because of small production of zinc sheets, wire, etc. Consumption of copper by public utilities is at a low ebb, while electrification of steam lines by the railroads is at a standstill as far as new projects go. Lead consumption in the form of batteries is of course dependent to a large extent on the reception of 1932 models of automobiles by the public. The pigment makers are beginning to get under production for the spring painting season.

Sentiment in copper has become more optimistic. In the first place it is stated unofficially that the world producers have virtually agreed upon a planned method of curtailment whereby production will be brought under current consumption, which should mean a steady dwindling of the large surplus stocks, now estimated to be fully 700,000 tons. In the second place the marketing methods of the copper export association are said to have been revised and agreed to.

Meanwhile two tariff bills have been prepared for introduction in Congress, one of which would provide for a duty of 4 cents per pound, and the other for six. The American Bureau of Metal Statistics has failed to issue statistics



# LOOK UP!

By Ralph R. Silver

National Cast Iron Pipe Company, Birmingham, Ala.

*(The following extracts are from an article in the December issue of "Pipe Dreams" published monthly by the National Cast Iron Pipe Company, Birmingham, Alabama.)*

It matters not how strait the gate,  
How charged with punishments the scroll,  
I am the master of my Fate  
I am the captain of my soul.  
Henley's "Invictus."

The physician will say that pellagra or cancer is the scourge of humanity. But the psychologist . . . the student of human minds and hearts and souls . . . will say that man's greatest enemy is fear. At this Christmas season of the year, when men are celebrating the birth of Jesus Christ, it is fitting to remember that in all His troubles, He knew no fear.

For the past year or more, mankind has been caught in one of its periodical sprees of fear. Some men have lost faith in themselves, in their associates, in their governments and their institutions. Many have lost faith in their God. They have seen fortunes swept away . . . the earnings of a lifetime have disappeared over night. They have seen business activities go down . . . down . . . down. Cold, unreasonable, terrifying fear has gripped their hearts. Strong men have stood by with idle hands . . . their wives and children hungry and cold . . . no money to buy bread and no job to get money. And behind it all and through it all stalked the grim spectre of fear.

"O, Ye of Little Faith," exclaimed Christ in His sermon on the mount. "But if God doth so clothe the grass of the fields which today is and tomorrow is cast into the oven, shall He not much more clothe you . . . O, Ye of little faith!"

Where is our faith? Where is the faith of Christ in adversity? Where is the faith of our forefathers . . . where is the pioneering spirit of American men and women who only a hundred years ago crossed the continent in covered wagons, in the face of death and privation, with not one tenth of the comforts and luxuries of the poorest people of modern times . . . and enjoyed it?

Someone has said that there are two kinds of discontent in this world . . . the discontent that works, and the discontent that wrings its hands. The first gets what it wants and the second loses what it has. There is no cure for the first but success; and there is no cure at all for the second.

Have we become a nation of "hand wringers?" Are we going to sit around

and complain? Are we going to accept present conditions as final and permanent . . . when every bit of experience indicates they are temporary?

O, Ye of Little Faith! It's not only in business and material things that this scourge of pessimism has taken hold. It is in spiritual things as well. None of us are perfect, of course, and never will be. Youth today is a bit freer and franker and perhaps more self-assertive, and a good many of the older generation are adding a whoop or two to the general whoopee. But humanity was wicked many thousands of years ago, too. Diogenes hunted in vain for an honest man. Men were hell-bound in the age of Caesar and Alexander and Savonarola and Wesley and Moody and Sankey and Billy Sunday. But somehow humanity always managed to blunder through. As Channing Pollock says, "there may be a rash on the face of civilization, but its heart is still beating vigorously, and its feet are still marching on and up."

When Christ said God clothed the grass of the fields and therefore would clothe you and me, He did not mean literally that we can sit down and wait for a new suit of clothes to drop out of Heaven onto our backs. Too many people never really learn how to read the Bible . . . they forget that the Bible is an oriental book, written by oriental men. Christ himself was an oriental. And there is as much difference between the oriental, or Eastern, mind and the Western mind (which is ours) as day and night. The oriental is an innate poet . . . he says and does things by indirection. Instead of calling a thing black, he is inclined to say it is not white. The Western mind, on the other hand is materialistic, logical, cold and hard. We Westerners seek facts and love to deal with what we think are indisputable truths. To ascend a mountain, we cut cold, hard steps into the granite straight up the side of the incline . . . but the oriental prefers to walk around and around the peak, each circle getting a little higher and a little higher. Both eventually reach the same place, but go about it differently. That is the chief reason the Bible cannot be taken literally. And when it is said God will clothe you it surely is meant He will give you the courage and faith to go to work and clothe yourself. God is not in the clothing business . . . He is in the faith and courage business . . . and when you and I regain enough faith and courage we will have enough clothes and food and everything else we need.

At this Christmas season of the year, could there be a better time to get off in a quiet corner and search our hearts . . . to get some of the oriental and sentimental vision that Christ had? Learn to dream a little . . . it is a luxury too often neglected. Life is not all made up of "shoes and ships and sealing wax."

The real rewards of life are not THINGS at all. The laugh of a child . . . the love of a woman . . . the comfort of a home, no matter how humble or poor it may be, cannot be bought with dollars. They are beyond price . . . and not a soul can take them from you. You may lose your job or your business . . . but who can take away your dreams? Unreal! Why, of all things in life they are most real. They are the stuff character, faith and loyalty are made of. They furnish memories more precious than pearls. Many a soul becomes unhappy in the daily grind because . . . he has forgotten how to dream. His cold, logical Western mind keeps plodding and plugging away at material things, when there is a fortune . . . in dreams . . . lying at his feet.

Courage . . . faith . . . ideals, all are born of dreams. The dreamer sometimes is laughed at . . . many men consider him a sentimental fool. But the joke is on them. He finds peace and contentment they know not of. He taps a source of happiness and cheer that never goes dry.

Why should not a Christian, who celebrates the birth of Jesus Christ, grasp some of the poetry . . . the sentiment . . . the idealism . . . the love . . . of Jesus Christ?

"I sent my Soul through the Invisible,  
Some letter of that After-Life to spell:  
And by and by my Soul returned to me,  
And answered—'I myself am Heaven  
and Hell.'"

Heaven or hell, joy or sorrow, peace or conflict, courage or fear . . . all are within our hearts. Lets "buck-up!" Lets not dream all the time nor work all the time . . . but let's do some of both!

Is there any reason why the carver of stone or the hewer of wood, should not at times look toward the sky and dream he is an empire builder?

Is there any reason why a weary traveler trudging along a dusty road, should not remember there are friends and loved ones somewhere thinking of him . . . and wishing him well?

For these are the source from which a man draws courage to go on. Take these away, and the blackness of fear comes down around him.

O, Ye of Little Faith! Consider somewhat the riches in your Mind and in your Soul. It will not take the place of beefsteak if you are hungry . . . but it will keep away the dark clouds of fear and discouragement, which are far worse than hunger.—Advertisement.



for November, those for October having also been omitted a month ago. Considerable criticism has been heard against this repression of what many consider vital facts concerning one of the country's most important industries.

A sharp turn in copper sentiment took place Wednesday. On that day it was being whispered about that the international conferences were about to be crowned with success. Sales abroad during the forenoon were but 100 tons, but by the end of the day the total had become 2000 tons, the best day's business in several weeks. On Thursday, export sales were 4000 tons. The export price has been advanced to 7½¢ c. i. f. European ports. The domestic price is 7¼¢ as against 6½¢ early in the week.

The representative of one large producing company stated at the middle of the week that the public did not yet realize the turn for the better in the copper situation. Of course, the public is not to be blamed for ignorance of copper developments since the leaders of the industry are probably the most secretive group of men found anywhere.

Demand for lead was fair at the beginning of the week when it was stated that enough orders were coming in to "keep the wolf from the door." However by the middle of the week business had dwindled to virtually nil and producers expected quiet conditions until next year.

Zinc was fairly steady all week at 3.15¢ per pound, East St. Louis, which is but 50¢ per ton above the low point of the year, or century, reached twice. Slab zinc is fairly steady and firm because ore prices do not yield. Holders of ore refuse to make further price concessions and in fact sell sparingly at today's prices. For weeks buyers of ore have found it difficult to buy at official prices.

### Production Curtailed in the Birmingham District

Birmingham, Ala., December 21—[Special.]—Practically every class of production has been lowered to the smallest output in the Birmingham district. Pig iron production is at its minimum, with four blast furnaces remaining in operation and two of these not attempting steady production. The Woodward Iron Company is blowing out its remaining two blast furnaces and shutting down coal and ore mines and banking fires in by-product ovens. There is a large amount of pig iron on yards but already some of the melters have indicated that their requirements in 1932 will be larger. Quotations are weak and

the \$12, No. 2 foundry, price is not as firm as it was.

Cast iron pressure pipe manufacturers have recently added a little to their backlogs and see promise of 40 per cent capacity operations through the winter. A week to 10 days lay-off for the holiday period is planned, advantage to be taken of the time to make necessary repairs. Authoritative statement is to the effect that much of the new business comes from municipalities which are striving to hold down unemployment. Utility companies are not doing as much, probably because of financing. However, prospects are bright for this industry during the coming year, reports showing many projects which will require no small amount of pipe.

Foundries have not been getting in much business. There are, however, several indications of better conditions on the turn of the year. Government propositions which will require machinery and appurtenances which will be produced with both iron and steel are already announced.

Hardie-Tynes Manufacturing Company shipped the past week for the New York water supply the last two of 18 sluiceways, made of iron, steel and bronze. These gates weigh 15 tons each.

The Gulf States Steel Company mills at Gadsden were in operation the past week with three of the open hearth furnaces. Immediately on the turn of the year resumption of operations is proposed. Fairfield Works of the Tennessee Coal, Iron & Railroad Company will

maintain its fairly active pace right up to the holiday season, then resume on the turn of the year. Announcement is looked for at almost any time of the resumption of the Ensley Works of the T. C. I., including the rail mill. There are nine open hearth furnaces at Ensley and a like number at Fairfield. It is expected that five of the Ensley furnaces will be placed in commission and six or seven at Fairfield in January.

Vice-President W. A. Irwin, of the United States Steel Corporation, in the Birmingham district the past week, visited some of the plants of the Tennessee Coal, Iron & Railroad Company and remarked on the splendid condition of the properties.

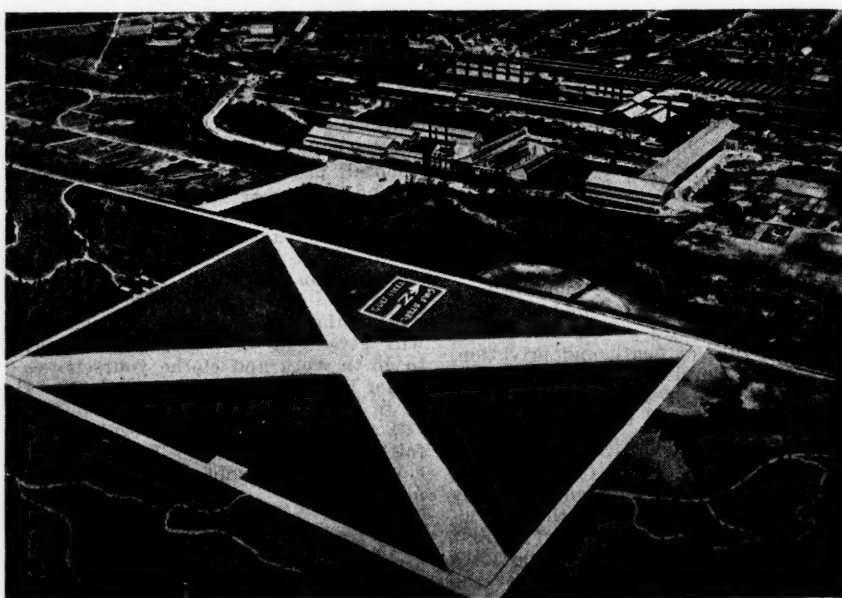
Production of coke was lowered materially when the Woodward Iron Company banked fires in its by-product works. Less than half the normal output is being manufactured and there is weakness in the price-base. For more than two years the foundry coke price was held at \$5.

#### PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$11.00 to \$12.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$11.50 to \$12.50; iron of 2.75 to 3.25 per cent, \$12.00 to \$13.00; iron of 3.25 to 3.75 per cent silicon, \$12.50 to \$13.50.

#### OLD MATERIAL

Steel rails .....	\$10.00 to \$11.00
Steel axles .....	12.00 to 13.00
Iron axles .....	12.00 to 13.00
Heavy melting steel.....	7.50 to 8.50
No. 1 cast.....	9.00 to 10.00
Stove plate .....	7.00 to 7.50
No. 1 railroad wrought.....	6.50 to 7.50
Car wheels .....	8.00 to 8.50
Tramcar wheels .....	8.50 to 9.00
Machine shop turnings.....	3.00 to 3.50
Cast-iron borings.....	3.00 to 3.50
Rolls for re-rolling.....	10.25 to 11.00



### New Airfield Opened by a Southern Steel Firm

The plant of the Gulf States Steel Co. at Gadsden may be seen immediately adjacent to this new facility, dedicated recently with appropriate ceremonies.



## NEW AND IMPROVED EQUIPMENT

### Roller Bearing Hoist

Designated as the "Little Wizard," a new light weight, roller bearing, low priced hoist has been developed by David Round & Son, Cleveland, Ohio. In addition to double roller bearings, the design of the new hoist incorporates a patented internal safety ratchet, Alemite Zerk lubrication and other important features. The top sheave is equipped with two sets of roller bearings, one on either end of the shaft, with the safety ratchet in the center. Both the bearings and safety ratchet function with an ascending load, while one set of the roller bearings and a friction bearing come into use with a descending load. Roller bearings in the bottom sheave operate in connection with both ascending and descending loads. The hoist is said to operate with little effort.



Light in Weight

### Portable Electric Grinder

To meet exacting requirements of industrial plants, the Binghamton Flexible Shaft Company, Johnson City, N. Y., has redesigned the Binghamton portable



Has Tilting and Swiveling Features

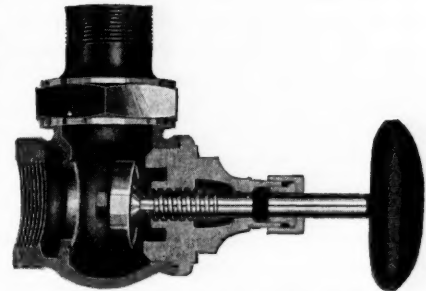
electric grinder. Single and 3-speed machines have the tilting and swiveling feature of the motor unit as shown in the accompanying illustration. This

feature means that the source of driving power conforms to every angle of the flexible shaft, which gives longer service because of the combination ball-bearing swivel and yoke type suspension. Grooved pulleys and V-belts are used on 4-speed drives, this form of drive being approved by designers and engineers, it is said. The motor is enclosed and is of the ball-bearing type.

### Steam Radiator Valve

A heavy 150-pound construction steam radiator valve that may be packed while the system is under pressure or vacuum, and that "will not jam in open position," is announced by Jas. P. Marsh & Company, Chicago, Ill. Body and bonnet castings are of steam bronze and wall thicknesses throughout are unusually heavy. The valve bonnet and disc holder are so constructed and machined that

when the valve is screwed full open a tight joint is formed between the top of the disc holder and the inside surface of



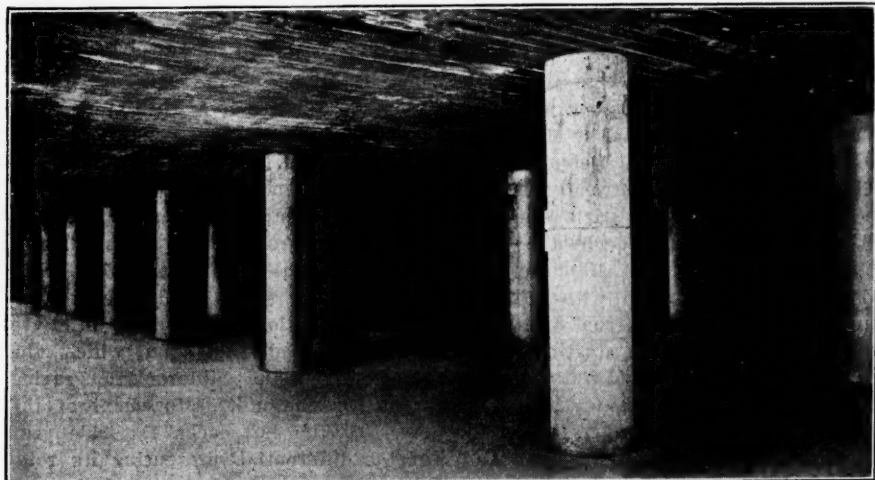
May Be Packed While Under Pressure

the valve bonnet, permitting removal of packing nut and gland follower and repacking of the valve under pressure or vacuum without leakage. This feature, while preventing the possibility of the valve jamming or sticking in the open position, also reduces the cost and outlay of time in repacking valves.

### "Smooth Ceilings"

Walter H. Wheeler of Minneapolis, Minn., has developed the "Smooth Ceilings" system of reinforced concrete floor and roof construction, for structural steel or reinforced concrete buildings. By eliminating drop panels and column capitals through use of a special steel column head enclosed within the slab, a patented feature, this system makes flat slab construction suitable for all kinds of finished buildings. In addition to the advantage of flat ceilings, the use of the "Smooth Ceilings" system is de-

clared to reduce the cost per square foot and to reduce the story heights while keeping the same clear heights from floor to ceiling. As the "Smooth Ceilings" are flat in construction, no suspended or metal lath and plaster ceilings are required to hide the construction, and plaster may be applied directly to the concrete, with or without bond coat, depending on conditions. In such buildings as schools, ceilings may be ground smooth and decorated on the concrete without plaster, thus reducing cost. Also, pipes and small ducts may pass through the slab around the column without interfering with construction.



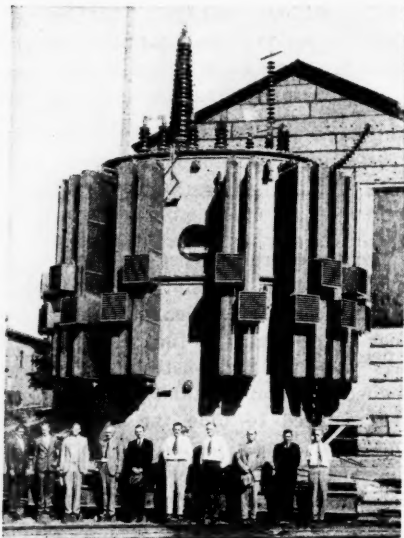
Reduces Story Heights While Maintaining Clearance Between Floor and Ceiling



### Transformers Withstand Lightning

Large transformers of lightning-proof construction were built recently by the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., for the Consolidated Gas, Electric Light & Power Company of Baltimore, for installation at the Baltimore end of the new transmission line from the Safe Harbor (Pa.) hydro-electric generating station.

Tests showed that these transformers would withstand severe surges incident to a direct stroke of lightning to the transmission line close to the transformer. The tests were made with a 3,500,000-volt lightning generator, capable of producing lightning surges representative of the violent surges produced by natural lightning. Prominent engineers witnessed the tests and saw the transformers successfully withstand repeated strokes of artificial lightning.

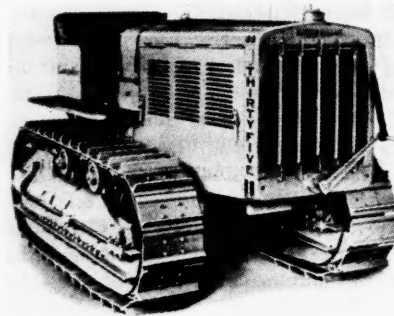


Lightning-Proof Type Transformer for a Baltimore Utility

### Automatic Oiling System

A novel automatic oiling system for industrial machinery and automobile chassis has been developed by Motor and Plane Accessories, Inc., Detroit, Mich. The device operates electrically without pump or other moving parts and consists of an oil tank made by the Westinghouse Electric and Manufacturing Company, and equipped with a heater unit which is separated from direct contact with the oil. The starting of the machine to be lubricated automatically turns on the electric heater inside the tank; this raises the temperature of the oil, causing expansion, and forces the oil out of the tank to the bearings where metering devices control the flow. When

the temperature reaches 150 degrees, a thermostat breaks contact and allows the oil to cool to 100 degrees. At that temperature the thermostatic switch again makes contact. A vacuum created during the cooling process is utilized to refill the tank from a central supply, and a check valve in the main feed line prevents oil being drawn from the bearings. An auxiliary feeder holds the pressure while the tank is being refilled. In automobile chassis lubrication, a small tank is installed in the channel of the frame and new oil is taken either from a central tank or built-in tank in the filler spout of the motor. Whenever oil is put into the engine it automatically refills the tank on the filler spout.



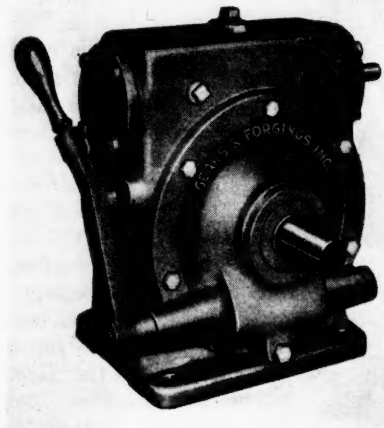
### New "Caterpillar" Thirty-Five

This is the fourth new model "Caterpillar" tractor announced this year by the Caterpillar Tractor Co. of Peoria, Ill. The other models were the High Clearance Ten, the Diesel and the Fifty.

### Worm Gear Reducer

Designed for either horizontal or vertical drives of  $\frac{1}{8}$  horsepower and up, where two speeds are required, a two-speed worm gear reduction unit has been introduced by Gears and Forgings, Inc., Cleveland, Ohio. This type of speed reducer is manufactured integral with motor or as a separate unit, in speed reduction ratios ranging from 4:1 to 150:1. The unit consists of a worm and worm gear and a set of differential gears, the driving shafts and their Timken roller bearings all enclosed in a sturdy leak-proof and dustproof cast housing. The two speeds are obtained by means of the differential gearing, the high speed by moving a small hand lever to the right. This locks the differential to the low speed shaft, on which the worm gear and differential gearing rotate as one unit. Movement of the lever to the left locks the side gear of the differential, preventing its rotation. Thus one-half the revolutions of the worm gear are imparted to the slow

speed shaft. Change of output speed may be made while the unit is in operation under full load. The worm gear is chilled nickel bronze and its shaft is S. A. E. 3145 steel. For the worm, which is forged integral with its



### Two Speeds Are Provided

shaft and hardened and ground, S. A. E. 2315 steel is used. Gears in the differential are of heat treated alloy steel and run in an oil bath, a plug in the housing being used to determine if proper oil level is maintained.

### Huber Road Maintainer

A road maintainer built by the Huber Manufacturing Co., Marion, Ohio, will be exhibited for the first time at the annual show of the American Road Builders Association in Detroit, January 11-13. New features are incorporated in this unit, which is powered by a Huber industrial power plant supplied with either four or six cylinders, at the pur-



### To Be Exhibited at Annual Show

chaser's option. A 10-ton and a 5-ton roller also will be shown. The exhibit will be in charge of M. E. Miller, sales director of the company.

Atlanta, Ga.—General contract to erect two 4-story dormitories for Atlanta University has been awarded to the Barge-Thompson Co., local contractors. The cost will be about \$300,000. James Gamble Rogers, New York, is architect.



# CONSTRUCTION DEPARTMENT

## and NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

### Airports, Airplane Plants, Etc.

Ala., Maxwell Field, Montgomery—Mill & Mine Construction Co., Martin Bldg., Birmingham, has contract for installing night lighting system.

La., Barksdale Field—J. B. Burrell, 225 S. 15th St., Philadelphia, Pa., reported, low bidder at \$38,700, for gypsum ceilings in hangars, warehouse and assembly shop Barksdale Field.

La., Shreveport—Dept. of Commerce, Aeronautics Div., reported, call for bids soon for equipment for lighting airway into Shreveport on Dallas-Meridian Sector; equipment to be delivered at Shreveport's municipal airport, includes five 62-ft. towers, 4 plates, oversized footing, 36-in. sq. and 91-ft. tower.

Texas—Dept. of Commerce, Aeronautics Branch, Washington, reported, opens bids in Jan. for installation lights on Dallas-Meridian section of Fort Worth-Atlanta airway. 10-22

Tex., Duncan Field—Jud & Ormond, 703 N. Flores St., San Antonio, reported, have contract for steel hangar, plumbing and refrigeration; Roche Electric Co., Pasadena, Calif., for electric wiring; A. J. Rife Construction Co., 1913 N. Howard St., Dallas, Gen. Contr. 11-5

Tex., McAllen—C. C. Eckhoff, Chrmn. Airport Bd., reported, constructing 56x80 ft. hangar.

### Bridges, Culverts and Viaducts

#### Proposed Construction

D. C., Washington—Following estimating on bridge, L. St., Rock Park, bids due Dec. 30. Office Public Buildings and Public Parks Comsn., John Nagel, Engr., Room 1613 Navy Bldg.; Chas. H. Tompkins Co., 1608 K St.; L. B. Davidson, Bond Bldg.; Industrial Engineering and Construction Co., 1909 Minnesota Ave., S. E.; Barbour & Ross, 11th and G Sts.; American Bridge Co., Wilkins Bldg., all Washington; Grier-Lowrance Co., Statesville, N. C.; Phoenix Bridge Co., Phoenixville, Pa.; McClintic-Marshall Co., Bethlehem, Pa.; Vernon Bridge Co., Mt. Vernon, Ohio; Virginia Bridge & Iron Co., Roanoke, Va.; Fort Pitt Bridge Works, Oliver Bldg., Pittsburgh, Pa.; quantities include 168 tons struc. steel, 1030 cu. yd. rein. conc., 47 tons rein. steel, 10 m. b. m. creosoted timber. 12-10

D. C., Washington—Fine Arts Comsn. approved steel arch design for Calvert St. bridge; Dist. Comms., Dist. Bldg., in charge; Modjeski, Masters & Chase, Engrs., 1420 Walnut St., Philadelphia, Pa. 8-27

Fla., Inverness—Citrus County Comms. have plans approved by War Dept., Washington, for bridge over Salt River, near Crystal River.

Fla., Miami—City Council plans protection to bridge foundations and approaches, requiring considerable piling, during improvement of Miami River; City Engr. in charge.

Ga., Atlanta—City, C. E. Kauffman, City Engr., opens bids Dec. 31 for \$41,600 Whitehall St. viaduct; 90 ft.; remove present bridge and reconstruct steel beam bridge with rein. conc., slab railings, brick panels, conc. piers and foundations, pavement, drains, electrical work, etc. Following estimating: George A. Clayton Co., Bona Allen Bldg., Griffin Construction Co., 66 Luckie St., N.

W.; J. S. McCauley Co., Bona Allen Bldg.; The Flagler Co., Red Rock Bldg., all Atlanta; F. P. Heftner, Decatur. 12-10

Ky., Millersburg—State Highway Comsn., H. D. Palmore, Engr., Frankfort, ordered survey looking toward construction of bridge near here, Bourbon County, Highway 68.

La., Natchitoches—Natchitoches Police Jury, F. G. Kelly, Pres., opens bids Jan. 12 for joint bridge between Wards 2 and 4, over Black Lake, Hog Pen Crossing.

La., New Orleans—New Orleans Public Belt R. R., Frank H. Joubert, Sec.-Treas. & Gen. Mgr., Municipal Bldg., advises construction of Mississippi River bridge delayed because of inability to market bonds; successful bidders agreed to extension of 6 months for execution of contracts; it is expected that within 6 months bonds may be marketed and contracts let. 10-8

MARYLAND—State Roads Comsn., L. H. Stuart, Sec., Baltimore, has low bids for 2 bridges in following counties:

Anne Arundel—substructure, approaches, etc., for bridge over Patuxent River, road from Upper Marlboro to Mt. Zion, known as Hill's bridge, AA-121-87, H. W. Kaylor, Wareham Bldg., Hagerstown, \$18,699;

Cecil—triple span conc. girder bridge, road from Elkton to Chesapeake City over Elk River, Bridge City, Ce-112-27, Winfield Stander & Co., 1431 Broadway, New York, \$29,653. 12-10

Md., Chesapeake City—State Roads Comsn., L. H. Stuart, Sec., Baltimore, has application approved by War Dept., Washington, for bridge over Elk River.

Mo., St. Louis—McClintic-Marshall Corp., Pittsburgh, Pa., reported, has contract for 210 tons I-beam spans for bridge over River des Peres, Carondelet, for Missouri Pacific R. R. Co., E. A. Hadley, Ch. Engr.; Winston Bros. Co., Buder Bldg., Gen. Contr.

Okla., Oklahoma City—Oklahoma County, Floyd Frazier, County Engr., has low bids for drainage structures: Proj. 1232, Bybee Construction Co., 2904 W. 20th St., Oklahoma City, \$4476; Proj. 1432, same firm, \$4597; Proj. 1532, Beatty & Schwartz, Oklahoma City, \$6324; Proj. 1632, Carl Marveltdt & Son, El Reno, \$5990; Proj. 132, Fontenier & Fontenier, Lexington, Okla., \$4642; Proj. 232, L. B. Bybee, \$10,444; Proj. 332, Nick Billen, Edmond, \$3997; Proj. 932, H. E. Boeckin, Oklahoma City, \$2203; Proj. 1732, Beatty & Schwartz, \$1648; Proj. 532, Brooks & Dahlgren, Inc., Insurance Bldg., Oklahoma City, \$49,201. (See Roads, Streets and Paving, 10-29.)

Tex., Amarillo—Potter County, Sam B. Motlow, County Judge, share with City cost of Filmore St. underpass to extent of \$60,000.

Tex., Dallas—Chicago, Rock Island & Pacific Ry. Co., W. H. Petersen, Ch. Engr., Chicago, Ill., Missouri-Kansas-Texas R. R. Co. of Texas, F. Ringer, Ch. Engr., St. Louis Southwestern Ry. Co., W. S. Hanley, Ch. Engr., Tyler, and City, Earl Goforth, City Sec., reached agreement regarding constructing subway to carry combined Lamar and McKinney Sts.; 1084 ft. long, under 12 tracks, rein. conc., 2 20-ft. roadways, 6-ft. sidewalk, \$255,000; probably start construction within 60 days.

Virginia—State Dept. of Highways receives bids for 4 bridges. See Roads, Streets and Paving.

### Contracts Awarded

Georgia—State Highway Bd. let contracts for 15 bridges. See Roads, Streets and Paving.

Okla., Oklahoma City—Oklahoma County, B. E. Corrigan, Clk., let contract to Green Construction Co., 11 N. Lee St., at \$28,984, for 3 span 490-ft. steel truss bridge on conc. piers.

Oklahoma—State Highway Comsn. let contracts for 4 bridge projects. See Roads, Streets and Paving.

Texas—See Roads, Streets and Paving.

Texas—State Highway Comsn. let contracts for 17 bridges. See Roads, Streets and Paving.

### Coal Mines and Coke Ovens

Va., Raven—Baker Genuine Red Ash Coal Co., Inc., capital \$15,000, chartered; Vera Baker.

### Cotton Compresses and Gins

Miss., Greenville—Planters Gin & Milling Co., E. D. Davis, Pres., reported, plans rebuilding burned cotton gin; cost \$65,000, including equipment.

### Drainage, Dredging and Irrigation

D. C., Washington—Chief of Engineers, Washington, call for bids about Dec. 28 for 2 steam-driven, stern-wheel river dredges (self-propelling 20-in. pipe line dredge, hull 155-in.); 200 ft. length molded, 265 ft. 2-in. length over all, 47 ft. 10-in. molded breadth hull, 48 ft. 7½-in. breadth hull over all, 8 ft. molded depth, 4 ft. 1-in. draft, stern wheel type, steam propulsion, turbine-driven main generating set, 20 in. elec. driven dredging pump, steam and elec. auxiliaries, water tube boilers, all steel hull, all steel main deck house, wood upper deck and houses and cutter type of dredging ladder.

Fla., Jacksonville—War Dept., Washington, allotted \$100,000 to restore and maintain 30-ft. channel in St. Johns River, Jacksonville to ocean; U. S. Engr. Office, Jacksonville, in charge.

La., Barksdale, Shreveport—Capt. Geo. E. Lamb, Constructing Quartermaster, opens bids Dec. 28 for dredging canal, Cooper's Bayou to Mack's Bayou, 7200 ft. long, approx. 100,000 cu. yd. 11-19

North Carolina—U. S. Engr. Office, Wilmington, has low bid from Lukens Dredging & Contracting Corp., Snow Bldg., Baltimore, Md., at \$41,226, for dredging, Beaufort-Cape Fear link, Intercoastal Waterway. 11-19

South Carolina—Gilbert Van B. Wilkes, Maj., Corps of Engrs., Dist. Engr., U. S. Engr. Office, Customhouse, Charleston, advises regarding Inland Waterway projects in South Carolina, survey report printed as House Document No. 41, 71st Congress, 1st Session, outlined project connecting Inland Waterway sections south of Charleston with those north of Cape Fear River by means of waterway 75 ft. wide on bottom, 8 ft. deep at low water; such part of project as relates to northern section of new waterway extending from Cape Fear River to Winyah Bay was approved by Act of Congress July 3, 1930, on condition that local interests shall provide right-of-way without cost to gov-



ernment and shall build and maintain all necessary bridges across waterway; work will probably be started on South Carolina part of this section about Feb. 15; objection was taken by local interests to route recommended by U. S. Engrs. for part of waterway extending from Winyah Bay to Charleston, so this section was not included in Act of July 3, 1930, but new study and report was called for; no work can be done on this section until Congress formally approves a project therefor.

Tex., Eagle Pass—B. Taylor, Carlizzo Springs, and W. C. Moody, Robert E. Lee Hotel, San Antonio, acquired 12,500-acre tract, Maverick County; plan irrigation.

Tex., Galveston—U. S. Engr. Office, reported, will let contract to Atlantic, Gulf & Pacific Dredging Co., Scanlan Bldg., Houston, at approx. \$353,000 for dredging 8,464,500 cu. yd., western end Galveston-Port Arthur section, Intracoastal Canal. 12-3

### Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Standard Gas & Electric Co., 231 S. LaSalle St., Chicago, Ill., John J. O'Brien, Pres., preliminary construction budget for 1932 will total \$25,015,966; projects now under construction at properties in Standard Gas & Electric Co.'s system amounting to \$3,508,034 will not be completed during 1931, costs for which are included in preliminary budget figures set up for 1932; \$16,347,500 of the amount will be expended in electric department; \$3,319,809 for gas dept.; and other departments, including general construction, \$5,338,857; following are some of the affiliated and subsidiary companies and the amount to be expended: Kentucky-West Virginia Gas Co., 231 S. LaSalle St., Chicago, \$893,298; Louisville Gas & Electric Co., Louisville, Ky., \$1,381,130; Oklahoma Gas & Electric Co., Oklahoma City, \$1,573,496; engineering and construction services for these projects will be rendered by Byllesby Engineering & Management Corp., wholly owned subsidiary of Standard Gas & Electric Co.

Ark., Garland City—Garland City Power & Ice Co., Inc., chartered; W. H. Davis, Garland City.

Miss., Starkville—City, reported, deferred awarding of contract for erecting light plant until Jan.; Swanson-McGraw, Inc., Consult. Engrs., Balter Bldg., New Orleans, La. 12-17

Missouri—Missouri Power & Light Co., Kansas City, reported, construct high tension power line from Keokuk Dam, Keokuk, Iowa, into Mexico, Mo., to junction with line from Mexico to Jefferson City; surveyors and engineers locating alternate rights of way.

N. C., Canton—Champion Fibre Co. advises contract let to W. W. Boxley Construction Co., Boxley Bldg., Roanoke, Va., for construction of dam on West Fork of Pigeon River below Sunburst for storage purposes; arched type; 525 ft. long and 50 ft. high; conc.; will flood area of slightly more than 100 acres. 11-26

Okla., Seminole—City, reported, construct electric plant; cost \$60,000; R. N. Geer, Engr.

Tenn., Jellico—City votes Jan. 2 on \$150,000 bonds for light and power plant; E. S. Miller, Chrmn. Light Committee.

Tex., Pelly—C. R. Haden, 1903 Dunston Road, Houston, reported, begin construction soon of power plant; has franchise. 11-19

### Foundry and Machine Plants

Ala., Huntsville—George Steingruber, reported, has option on plant of Electric Belle Range Co.; organize company to operate.

### Garages and Filling Stations

D. C., Washington—Arthur G. Dezendorf, 722 10th St., N. W., reported, leased site N. W. Cor. Twelfth and H Sts.; erect service station; 1 story; brick and stone.

Fla., Leesburg—Scarborough and Miller, reported, have contract for service station.

Fla., Miami—Marine Service, Inc., chartered; R. S. O'Neal, 2508 Columbus Blvd., Coral Gables.

Fla., Sarasota—Lemont & Goff Motor Co. incorporated; B. A. Lemont.

Ky., Lexington—Kentucky Ignition Co., Rose & Vine Sts., let contract to Edwin C. Gilson, 640 E. Main St., for construction auto parts and ignition plant; 72x140 ft.; brick

and steel; conc. floors; built-up roof; cost \$15,000; Miller & Gratz, Archt., 131 N. Lime St., Lexington; Beatty Construction Co., Westwood Drive, contract for conc. and excavation; J. O. Harper, W. Short St., for roofing; Snead Architectural Iron Works, 10th & Hill Sts., Louisville, for steel; install hot water heat, contract not let. See Want Section—Miscellaneous. 12-10

La., New Orleans—Fern Service, Inc., chartered; Wm. G. Sirrera, 7327 Cohn St.

Md., Baltimore—Fred J. Dierken, 924 E. Biddle St., reported, construct 3 garages. 1201-07 Wilcox St.; conc. block; 1 story; 24x48 ft.

Md., Baltimore—Geo. W. Rife, Rife Bldg., receives bids in Jan. for filling station, Fayette and Harrison Sts. 11-26

Md., Baltimore—Atlantic Refining Co., 400 Keyser Bldg., reported, soon take bids for filling station, 1900 W. Pratt St.; 1 story, brick and stucco; cost \$20,000; wrecking of 5 residences required. 12-3

Md., Baltimore—Atlantic Refining Co., Keyser Bldg., construct 1-story filling station, 1243 E. Oliver St.; owner builds.

Md., Baltimore—Southern Motor Sales Co., Inc., chartered; Edw. G. Boerner, 3304 Forest Park Ave.

Md., Baltimore—Jos. M. Strohmer, 2002 W. Pratt St., reported, receives bids about Jan. 1 for filling station, 3178 Wilkens Ave.; De Sota Road Garage, Wilkens Ave. and De Sota Rd., Lessee.

Md., Baltimore—Sun Oil Co., Haines and Warner Sts., reported, erect filling station, Russell and Gunpowder Sts.

Md., Takoma Park—Silver Springs Motor Co., Inc., chartered; Alfred Jervis.

Miss., Jackson—J. M. Spain, Archt., Jackson, reported, receives bids until Dec. 26 for construction 2 story, 51x21 ft., brick and fireproof service station, President & Amite Sts., for American Oil Co.

S. C., Loris—Stevens-Hardee Motor Co., incorporated; W. H. Stevens.

Tex., Crockett—King Motor Co. incorporated; R. L. King.

Va., Suffolk—S. S. Stallings, 137 Brewer St., reported, has contract for gas station for Continental Oil Co., Hill & Hannah Sts., Norfolk.

### Gas and Oil Enterprises

Fla., Daytona Beach—Specifications Motor-oil System, incorporated; N. J. Roberts.

Mo., Kansas City—Continental Construction Co., Professional Bldg., reported, changed name to Natural Gas Pipe Line Co. of America; capital increased to 1,500,000 shares from 500,000 shares.

Okla., Bristow—Wilcox Refinery, Frank Dunn, V. P., reported, plans \$100,000 modernization program.

Okla., Bristow—Producers Oil Co., reported, expending \$100,000 on plant improvements, including replacement of stalls and constructing cracking unit or gasoline plant.

Okla., Drumright—Stanolind Pipeline Co., Philcade Bldg., Tulsa, reported, soon let contract for pump station; 1 story; 66x78 ft.; steel frame and trusses with conc. and corrugated asbestos roof; metal doors and roof ventilators; cost \$25,000.

Okla., Oklahoma City—Alford-Cheatham Co., incorporated; J. E. Cheatham, 2905 W. 18th St., Oklahoma City.

Okla., Wilburton—Merger, reported, of interests through exchange of stock of American Gas, Inc., and Limestone Oil & Gas Co., Wilburton; authorized capital stock of 2 companies totals \$1,200,000; also, reported, contract let for laying pipe line from Wilburton pool to Quinton, Okla.; Dr. C. J. Laws, Princeton, Mo., Pres. of Limestone Co. and F. L. Vanderbeek, New York City, Pres. of American Gas, Inc.

Tenn., Sparta—Natural Gas Production Corp., capital \$20,000, incorporated; R. G. Grady.

Tex., Baird—Octane Oil Refining Co., Baird, advises are building a 1500 bbl. refinery; doing own construction work. 12-3

Tex., Beaumont—Yount-Lee Oil Co., San Jacinto Life Bldg., reported, has under construction pipe line at High Island connecting that field with tank farm and terminal facilities near Spindle Top; cost about \$700,000; program includes oil pipe line, cost \$600,000; 10 mile fresh water line, \$66,000; pipe line pump station at High Island, \$50,000; and two 80,000 bbl. oil storage tanks at High Island, cost \$50,000; no intensive drilling work contemplated at High Island; water line will be of 6-in. standard steel and will extend from Elm Bayou to High Island, furnish water for drilling operations; reservoir being constructed at Elm Bayou; maxi-

mum capacity of water line 500 gal. per minute; N. A. Saigh Construction Co., Bldrs. Exch. Bldg., San Jacinto, reported, has contract for the 2 lines; Pennsylvania Iron Works Co., Beaumont, for two 80,000 bbl. tanks; pipe purchased from Newell-Wilder Supply Co., Beaumont; pumps from Dayton-Dowd Co., 360 York St., Quincy, Ill., and engines from Cooper-Bessemer Corp., Mt. Vernon, Ohio.

Tex., Dallas—Patrick Production Co., incorporated; Henry Yeager, Dallas Natl. Bk. Bldg.

Tex., Dallas—Plains Production Co., capital \$300,000, incorporated; D. H. Byrd, Athletic Bldg.

Tex., Fort Worth—Lehigh Petroleum Corp., capital \$12,500, incorporated; W. D. Wells, 3820 Bunting St.

Tex., Henderson—Lisbon Gasoline Co., reported, construct gasoline plant in Henderson Dist. of East Texas oil field; capacity 20,000 gal.

Tex., Wichita Falls—Gulf Pipe Line Co., Gulf Bldg., Houston, reported, construct 1½ mile extension to main line in Archer County to Chalk Hill pool and connect with Deep Oil Development and Lindsay wells; reported, contracted to purchase 700 bbls. crude oil daily.

W. Va., Hamlin—Guyco Gas Co., capital \$20,000, chartered; A. N. Henson, V. L. Guy.

### Ice and Cold-Storage Plants

Fla., Bradenton—West Florida Ice Co., incorporated; W. J. Bremer.

Ga., Atlanta—Bradford Ice Co. let contract to Christian & Bell, Red Rock Bldg., for 1 story brick building, 72x72 ft., for 10 ton ice plant on Jonesboro Rd. and Anne St.; mchy. purchased from York Ice Machinery Co., York, Pa.; plans by Geo. Baun-gart, Jr., Bona Allen Bldg.; cost \$42,000.

### Land Development

Ark., Huntsville—Arkansas-Oklahoma Ozark Industrial Assn., reported, plans colonization of Phillip tract in Madison county 15 miles from Huntsville.

Fla., Miami Beach—City Council authorized purchase of ocean-front park site between Second and Third Sts.

Fla., Miami—Seaver-Border Co., Inc., chartered; V. C. Seaver, 232 N. E. 55th St.

Fla., Miami Beach—City, reported, plans purchase of ocean front park site between 2nd and 3rd Sts.; plans extending facilities of Flamingo Park.

Fla., Miami Beach—Bay Crest Co. incorporated; C. W. Richter, 293 N. E. Second Court, Miami.

Fla., Melbourne—Joseph Masch & Co., Inc., chartered; J. Masch.

Fla., National Gardens—Royal Dutch Gardens, Inc., Herman J. Shie, Pres., Zealand, Mich., reported, purchased National Gardens covering 3000 acres and plans development for nurseries, poultry farm and colonization; will build hatchery; peat deposit covering 250 acres will be developed, capacity output of 10 carloads daily; Henry Weller, V. P. & Sec., will have charge of nursery developments; Quirinus Devries, poultry developments and Peter De Vries, the peat industry and engineering and construction projects.

Fla., Orlando—Florida Ridge Groves Corp., incorporated; J. R. Sigbee.

Fla., Oviedo—Nelson & Co., Inc., capital \$75,000, incorporated; B. F. Wheeler.

Fla., Sarasota—Dr. Walter S. Burron, reported, acquired 320 acres on Tamiami Trail; develop for citrus grove.

Fla., St. Petersburg—Alpha Holding Corp., capital \$300,000, incorporated; E. E. Duncan, 806 18th Ave., N. E.

Fla., Tampa—H. M. Lott, Inc., chartered; M. G. Lott, 2009 Piedmont St.

Ga., Thomasville—J. H. Walbridge, 100 E. 42nd St., New York, reported, acquired 1000 acres near Ochlocknee River from John J. Turner, Thomasville.

Mo., Charleston—Star Land Co., incorporated; A. O. Hickcox, Cairo, Ill.

Mo., St. Louis—Lilly Busch Estates, Inc., capital \$130,000, incorporated; Edw. A. Faust, Bk. of Commerce Bldg.

Tenn., Sparta—North State Holding Corp., capital \$20,000, incorporated; R. G. Grady.

Tex., Houston—Woodhille Realty Co., incorporated; J. W. Metzler, 1203 Wichita St.

Tex., Houston—Atlantic Realty Co. incorporated; David T. Searls, Esperson Bldg.

Va., Fredericksburg—Nachusa Hall Farms, Inc., capital \$25,000, incorporated; W. G. Maguire, 231 S. LaSalle St., Chicago, Ill.



Va., Norfolk—York-Boush Corp., capital \$25,000, incorporated; A. L. Eggleston, 107 W. City Hall Ave.

Va., Richmond—Indian Plantations, Inc., capital \$200,000, chartered; Wirt P. Marks, Jr., Electric Bldg.

### Lumber Enterprises

Ark., Gurdon—Tom Clark and Hugh Ross, Arkadelphia, reported, establish saw mill.

### Mining

Ala., Glencoe—East Quarry Co., C. A. East, Mgr., reported, soon let contract for pulleys and conveyor belt for quarry plant.

Ark., Little Rock—Pulaski Mining Co. incorporated; Edgar F. Dixon, 615 E. 21st St.; develop bauxite mine near Sweet Home; leased 54-acre tract; company, reported, subsidiary of Dixie Mining Co.

N. C., Fletcher—Fletcher Lime-Stone Co., incorporated; W. N. Lance installing machinery for crushing stone.

N. C., Salisbury—Rowan Mining Co., recently incorporated, leased 1242 acres around Cold Hill; plans operations.

Oklahoma—Stockholders of Consolidated Lead & Zinc Co., Picher, reported, approved merger of company with Eagle-Picher Mining & Smelting Co., subsidiary of Eagle-Picher Lead Co., 124 N. LaSalle St., Chicago, Ill. 12-3

Oklahoma—Picher—Eagle-Picher Mining & Smelting Co., subsidiary of Eagle-Picher Lead Co., 124 N. LaSalle St., Chicago, Ill., reported, acquired Adams mine; rated capacity 60 tons per hr.; construct central mill probably of 3600 ton capacity south end of Oklahoma field; lately acquired properties of Canan Metals Corp.

Tex., Tyler—Sanford Co., Inc., chartered; John D. Eylers.

Tex., Tyler—Tom C. Patten, Inc., chartered; Tom C. Patten.

W. Va., Charleston—Monroe Manganese Mining Corp., chartered; H. L. Whitesell, Lowmoor, Va.; P. A. McDaniel, Clifton Forge, Va.

### Miscellaneous Construction

Ala., Mobile—Treasury Dept., Office Supv. Archt., Washington, D. C., let contract to J. W. Gilbert, 57 Bradford Ave., Mobile, at \$26,775, for wharf at U. S. quarantine station. 12-17

D. C., Washington—Architect of the Capitol, David Lynn, plans plaza to extend from Capitol to Union Station, including terrace development with fountain and reflecting pool; fountain to be on surface of imposing terrace, color effects to be produced in water by eight 1000-watt lamps and 96 250-watt red, amber and blue lenses; 44 specially designed lighting standards and luminaires; Bennett, Parsons & Frost, Archts., 80 E. Jackson Blvd., Chicago, Ill.

Fla., Hollywood—U. S. Engr. Office, Jacksonville, probably take bids soon for repairing north and south jetties at entrance to Hollywood harbor.

Ga., Fort McPherson, Atlanta—Capt. R. T. Edwards, Capt. Q. M. Corps, Constructing Quartermaster, has plans drawn and forwarded to War Dept., Washington, for memorial to Sergeant William Jasper; start construction about Feb. 1 after receiving bids; Henrick Wallin, Archt., Savannah.

La., Harvey—U. S. Engr. Office, First New Orleans Dist., Poland and Dauphine Sts., New Orleans, has low bid from Hardie-Tynes Mfg. Co., 800 N. 28th St., Birmingham, Ala., at \$192,775, for furnishing, setting and erecting fixed irons, gates and operating machinery for lock being built in Louisiana and Texas Intracoastal Waterway. 12-3

La., Monroe—State Conservation Comsn., Robt. Maestri, Commr., New Court Bldg., take bids at once for fish hatchery, Black Bayou de Lard, Ouachita Parish; include excavation of ponds, levee, etc.; S. E. Huey, Engr., Monroe. 12-10

Miss., Vicksburg—U. S. Engr. Office, T. B. Larkin, Maj., Corps of Engrs., Dist. Engr., advises regarding Advertisement Serial No. 32/162, for opening Dec. 22, 32,250 cu. yd. earthwork, due to anticipated unfavorable river stages, advertisement canceled and no bids desired. 12-17

Tenn., Memphis—U. S. Engr. Office, McCall Bldg., let contract to Caldwell Foundry & Machine Co., 1300 Fifth Ave., North, Birmingham, for 180 sections 18-in. welded shore pipe.

Tex., El Paso—Flood Protection—See Roads, Streets and Paving.

Tex., Sabine Pass—Ed S. McFarland, Orange, applied to U. S. Engr. Office, Galves-

ton, for War Dept. permit to excavate 2 ferry channels and 2 ferry landings in Sabine Pass, as link in new Jefferson-Cameron Highway; ferry to consist of flat bottom barge of 12 or 18-car capacity towed by tug.

### Miscellaneous Enterprises

Ala., Ashland—F. M. White, County Agt., reported, interested in establishment of cheese plant; H. L. Alsobrook, Atlanta, Ga., co-operating.

Fla., Fellsmere—Fellsmere Sugar Co. incorporated; F. W. Helse.

Fla., Tampa—Tar Products Co. incorporated; R. Nettles, Lutz, Fla.

Ga., Cordele—Piedmont Mfg. Co., Ransom Burts, Mgr., Gainesville, reported, moving overall, work shirt and work plants plant from Gainesville; install 100 machines.

Ga., Valdosta—Blanton Co., incorporated; Mrs. M. M. Blanton, Ben N. Blanton; naval stores.

La., Lake Charles—Simms Barge Line, J. J. Martin, Representative, operate barge line into Lake Charles from New Orleans by way of Intracoastal Canal and tributaries.

La., New Orleans—Edgard-Reserve Ferry Co., Inc., capital \$16,000, chartered; Jos. A. Disso, Foot of Jackson St.

La., New Orleans—Travelers Publishing Co., Inc., chartered; Louis Ochs, 7904 St. Charles St.

Md., Annapolis—Gustave Fast Engineering Corp. incorporated; Gustave Fast.

Md., Baltimore—Roosevelt Amusement Co., 512 W. Biddle St., incorporated; Kalman Flaks, 2904 Hilldale Ave.

Miss., Biloxi—Helfensteller, Hirsch & Watson, Archts., 1503 Chemical Bldg., St. Louis, Mo., advises plans not yet completed for Ness Creamery; contract to be let early in Jan. 12-10

Miss., Iuka—Iuka Ferry Co., capital \$20,000, incorporated; W. A. Duke.

Mo., Kansas City—Jno. G. Lewis Plumbing & Heating Co., incorporated; Jno. G. Lewis, 412 E. 31st St.

Mo., Sedalia—Waldmans, Inc., chartered; Jack Shapiro; publishing.

Mo., Sedalia—Croker-Wallace Packing Plant, Springfield and Joplin, reported, establish packing plant; 10 acre tract on site of old brick plant; erect building; capacity 500 cattle and 1250 hogs.

Mo., Springfield—Anchor Mfg. Co., N. Clay Ave. and Central St., reported, let contract to M. E. Gillioz, for rebuilding burned poultry feeder and incubator plant; 75x140 ft.; 2 stories; conc.; fireproof; structure to be divided by fire doors; G. F. Hentschel, Supv. Archt., 1211 S. Pickwick St. 12-10

Mo., St. Louis—Motor Electric Service Co., Guy F. Turner, Mgr., 3912 Washington Ave., reported, erect 1 story and basement building S. W. Cor. Washington & Ewing Aves.; cost \$12,000.

Mo., St. Louis—Ripplinger Electric & Machine Works, Inc., chartered; Theodore J. Ripplinger, 3626 Arsenal St.

Mo., St. Louis—Ten Broeck Candles, Inc., capital \$50,000, chartered; Baarent Ten Broeck, 3927 Olive St.

Mo., University City, St. Louis—Ruth Construction Co., 619 Walnwright Bldg., incorporated; Paul C. Herold.

N. C., Charlotte—McClaren Rubber Co., 406½ W. Trade St., incorporated by I. Elsbrough, C. G. Milse; take over assets of former McClaren Rubber Co.

N. C., Greensboro—Virginia Steel Co., Inc., 1701 Dock St., Richmond, Va., and Carolina Steel & Iron Co., S. Elm St., ext., Greensboro, reported, has contract for 100 tons conc. bars and shapes for building for Coca Cola Co., H. A. Kane, Contr., Box 1122. 12-10

N. C., Wilmington—North Carolina State Line, James S. Williams, Pres., 1701 Princess St., operate ship line between Wilmington, Baltimore and Philadelphia via inland route; steamer State Port now being built; will be launched soon.

Okla., Tulsa—Howe Parker Co., capital \$50,000, incorporated; Quincy J. Jones, Mayo Bldg.

Okla., Tulsa—Tulsa Roofing Co., incorporated; H. O. Bland, Exch. Bank Bldg.

Tenn., Columbia—Washington Mfg. Co., R. L. Petty, Jr., Local Mgr., reported, double capacity pants mfg. plant; install additional machinery.

Tenn., Lewisburg—Ozark Pencil Co., 6118 Gambleton St., St. Louis, Mo., reported, leased building; establish advertising and novelty pencil plant.

Tenn., Knoxville—National Automobile Corp., incorporated; E. G. Cooper, L. F. M. Bldg.

Tenn., Knoxville—Sipit Chemical Co., Inc., chartered; J. D. Howard, 1516 Highland Ave.

Tex., Big Springs—A and W. Lime Products Co. incorporated; O. R. Walker.

Tex., Dallas—Dallas Tank & Boiler Co., incorporated; Henry L. Hinckley, 400 S. Wilmet St.

Tex., Fort Stockton—J. G. Shotwell, Inc., chartered; J. G. Shotwell; construct bridges and roads.

Tex., Fort Worth—Joy-Smith Co., incorporated; A. R. Epperson, 1612 Carlton St.; manufacture toilet articles.

Tex., Marlin—Marlin Mineral Water Co., incorporated; B. C. Bratton, T. A. Cheeves, Sr.

Tex., Sabine Pass—Ferry—See Miscellaneous Construction.

Va., Hopewell—Hopewell-Charles City Ferry, Inc., capital \$25,000, incorporated; George G. Ruffin, 320 Brown Ave.

Va., Richmond—Richmond Waterfront Terminals, Inc., capital \$100,000, chartered; H. L. Lowry, Law Bldg.

W. Va., Fairmont—Negotiations, reported, completed, between Monongah Glass Co. and General Glass Corp., Lancaster, O., for continued operation of Monongah Glass Co.'s plant. 11-12

W. Va., Fairmont—Owens-Illinois Glass Co., Toledo, O., reported, plans improvement program, covering 3 months; work includes installation new equipment and erection of mechanical shop; Fred Schlotter, Mgr. 10-29

### Motor Bus Lines and Terminals

Va., Richmond—Brooks Transportation Co. incorporated; J. A. Brooks, 501 Henri Road.

### Railways

Louisiana—U. S. Engr. Office, First New Orleans Dist., Poland and Dauphine Sts., New Orleans, has low bid from Moore Construction Co., Liberty, Miss., for installing bridge track, raising approach tracks, extending siding and removing 1000 ft. detour track on Texas New Orleans R. Co.'s Bayou Sale branch near North Bend. 12-10

Md., Baltimore—American Bridge Co., 71 Broadway, New York, reported, has contract for 390 tons steel for signal towers for electrification Pennsylvania R. R., between Washington, D. C., and Wilmington, Del.

### Railway Shops and Terminals

Md., Baltimore—Pennsylvania R. R., W. B. Wood, Engr., in charge of Baltimore improvements, Pennsylvania Sta., let contract to Consolidated Engineering Co., 20 E. Franklin St., for signal cabin, Gwynns Run. 12-10

Md., Baltimore—Western Maryland Ry. Co., H. R. Pratt, Ch. Engr., Baltimore, let contract to Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., for 2,000,000-gal. molasses tank, McComas St., Port Covington. 12-17

### Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

### Proposed Construction

Ark., Clarksville—Comms. of Paving Dist. No. 4 have low bids from Luke & Co., Fort Smith, and Grady Garms, Rector Bldg., Little Rock, for paving Main St.

D. C., Washington—District Highway Dept., Capt. H. C. Whitehurst, Ch. Engr., plans widening, straightening and repaving lower 14th St.; remove trees; probably let contract in February; \$80,000.

Kentucky—State Highway Comsn., H. D. Palmore, Engr., Frankfort, opens bids Jan. 12 for 2 roads: 1.4 mi. surfacing, Covington-Erlanger (U. S. 25) road, city limit of Covington to approx. 4.2 mi. north of Erlanger; 2.5 mi. surfacing, same road, 4.2 mi. north of Erlanger to approx. 1.7 mi. north of Erlanger, both Kenton County.

La., Tallulah—Madison Parish Police Jury, P. C. Benjamin, Sec. and Engr. in charge of roads, opens bids Jan. 6 for change in Air-



port gravel road, including change in drainage canal, creosoted piling bridge, road embankment, gravel surfacing and culvert pipe.

**MARYLAND**—State Roads Comsn., H. L. Steuart, Sec., Baltimore, opens bids Dec. 29 for 2 roads:

**Baltimore City**—0.60 mi. sheet asphalt, Patapsco Ave., Brooklyn Ave. to Pennington Ave., BC-111-74;

**Calvert County**—2.69 mi. gravel, Prince Frederick toward Dare's Wharf, C-42-84.

**Md., Baltimore**—City, George Cobb, Highways Engr., has low bid from Arundel Construction Co., 910 Trinity St., at \$24,046, for Footway Repair Cont. 7.

**Mississippi**—State Highway Comsn., C. M. Williamson, Dir., has low bid from J. H. & H. E. Pigford, Meridian, at \$61,786, for 6.363 mi., Meridian-Hattiesburg road, Lauderdale County, FAP 135-Reop. 12-17

**Miss., Waveland**—Town, Geo. T. Herlihy, Sec., opens bids Jan. 5 for approx. 1600 ft. 18 and 24-ft. black top or sheet asphalt, approx. 39,000 cu. yd. See Want Section—Miscellaneous.

**MISSOURI**—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, has low bids for 19 roads in following counties:

**Christian**—1.583 mi. gravel and crushed rock, 2.699 mi. gravel, 65-107B, 65-108B, J. A. Kerr, Ozark, \$5294, \$16,151;

**Dallas**—2.735 mi., 3.771 mi. gravel and crushed rock, 73-75, SE-1, J. R. Brownfield, Ozark, \$18,269, \$10,419;

**Howell**—2.010 mi. gravel, 4.462 mi., 4.868 mi. graded earth, SC-1, SC-2, SC-3, Martin Wunderlich, Jefferson City, \$9299, \$10,849, \$9910;

**Oregon**—2.043 mi. 3.699 mi., 4.381 mi., 1.826 mi. graded earth, SA-2, SD-5, SE-3, SE-4, Martin Wunderlich, \$10,021, \$6423, \$13,866, \$4031;

**Phelps**—4.307 mi., 4.498 mi., 4.214 mi. gravel and crushed stone, 72AP-1, 72AP-2, 72AP-3, Martin Wunderlich, \$42,860, \$16,760, \$33,308;

**Dent**—4.4038 mi., 4.536 mi., 4.316 mi. gravel, 72AP-4, 72AP-5, 72AP-6, Martin Wunderlich, \$33,262, \$57,829, \$26,911;

**Webster**—4.115 mi., 3.924 mi. gravel, SA-1, SA-2A, Chaney & Amyx, Branson, \$10,513, \$1955.

**North Carolina**—State Highway Comsn., E. B. Jeffers, open bids in January for 3 mi. paving dirt segment, Route 344, Grandy, Currituck County, to Wright Memorial Bridge.

**Okl., Oklahoma City**—Oklahoma County, B. S. Corrigan, Clk., has low bid from Makins Sand & Gravel Co., Comm. Exch. Bldg., at \$21,900, for 60,000 bags cement.

**TEXAS**—State Highway Comsn., Gibb Gilchrist, Highway Engr., plans 12 roads in following counties:

**Fayette**—6.950 mi. grading, draining, Highway 44, LaGrange north to Winchester road, SAP 955-A, Unit 1, \$58,000;

**Fannin**—12.050 mi. grading, draining, Highway 5, Grayson County line to Bonham, FAP 63, \$70,700;

**Presidio**—11.474 mi. grading, draining, Highway 3, Marfa to Paisano, \$78,000;

**Haskell**—13.782 mi. rein. conc., Highway 18, Intersection Highway 30 northwest to Stonewall County line, FAP 587-A, Unit 2, \$235,000;

**Brazos**—2.840 mi. grading, draining, Highway 21, through Brazos River bottom near Stone City, FAP 620-C, Unit 1, \$53,000;

**Cottle**—12.082 mi. gravel base with triple bitum. surface treatment, Highway 4, Dunlap to Childress County line, SAP 854-B, Unit 2, \$122,000;

**Wise**—11.09 mi. double bitum. surface treatment, Highway 24, 4 mi. north Bridgeport via Chico to Jack County line, M-2;

**Liberty**—steel, conc. overpass over B. S. L. & W. Ry., Highway 132, SAP 955-B, W-3, \$22,500;

**Madison**—3.457 mi. grading, draining, Highway 90, Joze Switch to Grimes County line, SAP 610-F, Unit 1, \$52,000;

**Red River**—16.0 mi. double bitum. surface treatment, Highway 37, Clarksville south to intersection with Highway 49, M-1-B-6, \$41,000;

**O**

**Shelby**—6.34 mi. widening shoulders and ditches, graveling and surfacing with double bitum. surface treatment, Highway 22, Timpan to Rusk County line, M-11-E-4, \$42,000;

**Irion**—grading, draining, Highway 99, Tom Green County line to Reagan County line.

**Texas**—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, opens bids Jan. 18 and 19 for highway construction.

**Texas**—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, plans letting contract within 4 months for 6.54 mi. 22 to 36-ft. pavement, Ascarate to Ysleta, El Paso County.

**Texas**—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, probably let contract in January for extending paving on Oil Field road, Potter County.

**Tex., Amarillo**—City probably start work in near future on \$240,000 paving program.

**Tex., Galveston**—Galveston County Comms. Court start taking bids Jan. 1 for surfacing Boulevard between 18th and 39th.

**Tex., San Antonio**—Capt. A. W. Parker, Constructing Quartermaster, Fort Sam Houston, plans approx. 50,000 sq. yd. paving around new bldgs.

**VIRGINIA**—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, opens bids Jan. 5 for 3 roads and 4 bridges in following counties:

**Amherst**—3.3 mi. grading, draining, Route 13, 0.2 mi. east of Pedlar River to Rockbridge County line, 239,456 cu. yd. excavation, 3502 lin. ft. pipe, 50,836 lb. rein. steel, bridge over 20-ft. over Pedlar River, 28,495 lb. rein. steel, F555CB1;

**Appomattox**—127-ft. bridge, 0.5 mi. south of Caslie, 3 40-ft. rein. conc. beam span, over 20 ft. over Bent River, Route 307, 52,060 lb. rein. steel, S658B6;

**Gooseland**—4.8 mi. gravel or soil, alt. macad., 0.2 mi. east of Tuckahoe Creek to 0.4 mi. west of Manakin, Route 19, 91,235 cu. yds. excavation, 1748 lin. ft. pipe, 6974 lb. rein. steel, 50,677 sq. yd. macad., 15,626 sq. yd. gravel or soil, bridge over 20 ft. over Tuckahoe Creek, 36,565 lb. rein. steel, S719AB;

**Rockingham**—3.8 mi. gravel, alt. macad., Page County line to Elkton, Route 815, 39,390 cu. yd. excavation, 1150 lin. ft. pipe, 4654 lb. rein. steel, 40,831 sq. yd. macad., 12,588 cu. yd. gravel, bridge over 20 ft. over Dry Run, 8985 lb. rein. steel, S740AB1.

#### Contracts Awarded

**GEORGIA**—State Highway Bd., J. W. Barnett, Chmn., let contract for 21 roads and 15 bridges, totaling \$1,674,837, in following counties:

**Bacon**—conc., steel, timber bridge, Douglas-Alma road, over Little Hurricane Creek, No. 5, Goodwyn & Hurt, Montgomery, Ala., \$14,715;

**Baldwin**—6.385 mi. grading, Milledgeville-Sparta road, 241-B, Beckham-Lawler Contracting Co., Perry, \$24,592;

**Cherokee**—3.348 mi. grading, Marietta-Canton road, 24-Reop., Part 2, Cont. 1, M. R. Woodall Co., 1594 Lakewood Ave., S. E., Atlanta, \$34,034; steel, conc. bridge over Etowah River, Canton, 24-Reop., Part 2, Cont. 2, Howerton & Hageman, Medical Bldg., Asheville, N. C., \$41,241;

**Colquitt**—11.593 mi. pebble soil, Moultrie-Camilla road, 379-A, Hooper Construction Co., Bunnell, Fla., \$71,160; 5 bridges, Moultrie-Camilla road, 379-A & 379-B, W. F. Scott, Thomasville, \$20,594; 4.862 mi. conc., Moultrie-Thomasville road, 487-B, Van Gordon Construction Co., Atlantic Natl. Bk. Annex, Jacksonville, Fla., \$78,185;

**Coweta**—wire cut lug brick, asphalt filler and sand for cushions for street paving, Newnan, S-4-2, Soclay Paving Co., Inc., Provident Bldg., Chattanooga, Tenn., \$20,290;

**Evans**—10.311 mi. grading, Reidsville-Pembroke road, 52-Reop., C. M. Lyle Construction Co., Gainesville, Ga., \$53,482;

**Fulton**—cold mix asphalt binder course and surface course for 1.5 mi. paved road, Atlanta-Jonesboro road, 1055, Sam E. Finley, 292 North Ave., Atlanta, \$14,616;

**Grady-Thomas**—13.368 mi. conc., Cairo-Thomasville road, 474-A&B, Van Gordon Construction Co., \$243,032;

**Greene**—11.041 mi. grading, Madison-Greensboro road, 179-B, all bids rejected;

**Henry**—2 bridges, McDonough-Atlanta road, 685, D. B. Scott & Co., Decatur, \$17,275;

**Jeff Davis**—4.977 mi. paving, Hazelhurst-Baxley road, 478-A Reop., Sam E. Finley, \$53,758;

**Madison**—6.177 mi. top soil, Athens-Elberton road, 483-C, Cont. 1, A. H. Singer, Lafayette, Ala., \$40,961; bridge over Broad River, Athens-Elberton road, 483-C, Cont. 2, Wannamaker & Wells, Inc., Orangeburg, S. C., \$17,376; 4.396 mi. top soil, Athens-Elberton road, 483-C, Cont. 1, A. H. Singer, \$40,961; bridge over Broad River, Athens-Elberton road, 483-C, Cont. 2, Wannamaker & Wells, Inc., \$17,376; 4.396 mi. top soil, Athens-Elberton road, 483-E, A. H. Singer, \$11,771;

**Meriwether**—bridge, Greenville-Zebulon road, 597, H. W. Henderson, Cassville, \$6684;

**Peach**—3.593 mi. grading, bridge, Montezuma-Fort Valley road, 144-C, Beckham & Lawler, Perry, \$21,977;

**Pulaski**—0.853 mi. conc., Perry-Hawkinsville road, Hawkinsville, 941-B, Whitley Construction Co., LaGrange, \$18,406; city work, Hawkinsville, Campbell Construction Co., Columbus, \$10,081;

**Richmond**—0.420 mi. conc., steel and conc. bridge, Augusta-Barnwell, S. C. road, Sand Bar Ferry, over Savannah River, Flood Relief Proj. 11, Wannamaker & Wells, Inc., \$73,062;

**Screven**—6.344 mi. sand asphalt surfacing, bridge and 2 bridge culverts, Wylvania-Waynesboro road, 928, Barber Bros. Construction Co., Baton Rouge, La., \$97,782;

**Seminole**—0.897 mi. sand asphalt base and surfacing or ilmerock base surface treatment, Bainbridge-Donaldsonville road, Donaldsonville, FAP 480-B& SAP 442-A, Sam E. Finley, \$27,389;

**Stewart**—7.095 mi. conc. paving and widening bridge, Lumpkin-Cuseta road, 408-C, Whitley Construction Co., \$123,120; 4.669 mi. conc. paving, Richland-Cuseta road, 485-B, Van Gordon Construction Co., \$80,232;

**Taylor**—3.273 mi. grading, bridge, Ellaville-Butler road, 393-E, all bids rejected; bridge over Cedar Creek, Butler-Ellaville road, 393-E, D. B. Scott, Decatur, \$7241;

**Ware**—3.476 mi. ilmerock base surface treatment, Waycross-Pearson road, 410-H, Duval Engineering & Contracting Co., Dyal Upchurch Bldg., Jacksonville, Fla., \$64,063;

**Washington**—11.743 mi. ilmerock surface on stone base with cold mix asphalt surface or conc. paving, Sandersville-Louisville road, 473-A, Part 1, & 473-C, Parts 1 and 2, J. W. Gwin, Comer Bldg., Birmingham, Ala., \$180,024;

**Washington-Jefferson**—12.877 mi. ilmerock base surface treatment or stone base with cold mix asphalt surface or conc. paving, Sandersville-Louisville road, 473-A, Part 2, 473-B and 1070, Davis Construction Co., Rhodes-Haverty Bldg., Atlanta, \$189,494;

**Wilkes-McDuffie**—1.079 mi. grading, being approaches to bridge over Little River, Thomson-Washington road, 296-C, 395 Reop., Part 1, Phelps & Milam, \$18,201. 12-10

**Ga., Rome**—City, S. S. King, City Mgr., let contract to Minge Construction Co., Rome, at \$11,286, for 6600 sq. yd. 6-in. vibro conc. paving, N. Broad St.; Floyd County to do grading and furnish coarse aggregate; Robert & Co., Conslt. Engrs., Bona Allen Bldg., Atlanta.

**NORTH CAROLINA**—State Highway Comsn., Leslie R. Ames, Ch. Engr., Raleigh, let contract for 3 roads in following counties:

**Edgecomb**—35 mi. conc. for approaches to bridge south of Tarboro, No. 1280, Cobb & Homewood Co., Chapel Hill, \$7743;

**Burke**—1.17 mi. conc. in city limits of Morganton, No. 8111, F. J. McGuire, 39th St., Norfolk, Va., \$4929;

**Swain**—macad., Tennessee line to point south of Smokemont, No. 9815, Nello L. Teer, Geer Bldg., Durham, \$70,492.

**Okl., Oklahoma City**—Oklahoma County let contract to Dewey Portland Cement Co., Trademans Bldg., at \$24,150, for 60,000 sacks cement for road work; to Capital Steel Co., S. Agnew Ave., at \$27,869, for bridge and rein. steel, including 95 tons rein. bars, 381 tons struc., for roads.

**TEXAS**—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, let contracts for 11 roads and 17 bridges, totaling \$1,019,747, in following counties:

**Victoria**—17 mi. conc., Highway 128, Arcole Construction Co., Richland, \$200,596;

**Bee-San Patricio**—11.9 mi. 2-course limestone rock asphalt course on conc. base, Highway 12, S. & H. Construction Co., Milwaukee, Wis., \$207,323;

**Crosby-Dickens**—14.7 mi. caliche base course with double bitum. surface treatment, Highway 24, Field Bros. & McCelvey, Lubbock, \$71,220;

**Brewster**—12.1 mi. grading, Highway 3, Hannah Construction Co., and Fred and Dan Hall, 2717 Ethel St., Waco, \$60,809;

**Gonzales**—15.7 mi. grading, draining, Highway 3-A, D. F. Jones Construction Co., Pyramid Life Bldg., Little Rock, Ark., \$66,955;

**Ellis**—7.5 mi. grading, draining, Highway 34, E. G. Powell, Jacksonville, \$17,064;

**Culberson**—12.7 mi. grading, draining, Highway 1, Hannah Construction Co., and Fred and Dan Hall, Waco, \$42,305;

**Ellis**—steel, conc. and treated timber bridges over Little Mustang, Big Mustang and Cottonwood Creeks and 4 mult. box conc. culverts, Highway 34, Thomas & Ratliff, Rogers, \$29,611;

**Gonzales**—5 conc. bridges, Highway 3-A, W. W. Vann, Mercedes, \$49,619;

**Culberson**—2 small conc. bridges and 5 conc. mult. span culverts, Highway 1, L. D. Parks, 4108 Bunting St., Fort Worth, \$21,019;

**Gaines**—20 mi. grading, draining, caliche base with triple asphalt, Highway 137, Field Bros. & McCelvey, \$146,834;

**Throckmorton**—15.9 mi. grading, draining, Highway 120, R. B. Stroup, Vernon, \$45,440;

**Ellis**—15.3 mi. jetting and ponding embankments, Highway 14, C. E. Lucas, Sacul, \$16,074;

**Pecos**—2.2 mi. grading, draining, Highway 82, Thompson & Simpson, San Angelo, \$28,288;

**Wise**—small timber bridges, Highway 2, John F. Buckner, Cleburne, \$1181;

**Hopkins**—6 small timber bridges, Highway 11, Thomas & Ratliff, \$15,409.



**OKLAHOMA**—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, let contracts for 3 roads and bridge projects in following counties:

**Coal**—2 bridges, U. S. 75, Ledford & Way, Walters, \$23,315;

**Payne**—bridge, State Highway 1, Schlichter Bridge Co., Clay Center, Kans., \$11,484;

**LeFlore**—10.654 mi. grading draining, U. S. 270, J. J. Harrison Co., Norman, \$83,905; 2 bridge and culvert projects, J. N. Keliher, Southern Bldg. Little Rock, Ark., \$39,614;

**Johnston**—7.75 mi. grading, draining, bridges, State Highway 47, B. N. Talliaferro, Madill, \$15,480, and J. T. Abels Co. Madill \$42,275;

**Bryan-Atoka**—furnishing gravel for U. S. 75, J. Add Wylie, Marlow, \$4854; hauling and unloading, Harris Bros., Oklahoma City, \$33859. 12-10

**Tex.**, El Paso—El Paso County, J. W. Carter, County Engr., advises construction under way by day labor on road and spillways in McKelligon Canyon (county park), flood protection and drainage at Lincoln Park and Fabens; materials from local dealers. 12-10

**Tex.**, Houston—City, J. M. Nagle, City Engr., let contract to Gulf Bitulithic Co., 2820 Polk St., at \$91,702, for paving Louisiana St. 12-17

**Tex.**, San Antonio—City, I. Ewig, City Engr., let contract to Rogers & Stewart, 1407 W. Laurel St., for conc. sidewalks, Elm St. 12-17

## Sewer Construction

**Sewer Construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.**

**Ala.**, Montgomery—Dysard Const. Co., 10 Forsyth St., Atlanta, Ga., reported, low bidders at \$16,115 for sanitary sewers, Uplands Subdivision.

**D. C.**, Washington—Peter D'Adamo Construction Co., Marine Bank Bldg., Baltimore, Md., reported, has contract for Conduit Rd. and Cathedral Ave. stormwater sewer; Corson & Gruman Co., 33rd & K Sts., N. W., contract for Olive St. branch of Thirtieth St. stormwater sewer. 12-3

**La.**, New Orleans—James M. McGowan, 1209 Joseph St., reported, low bidder for furnishing labor and material on percentage basis for water works, sewerage and drainage construction during 1932. 10-22

**Md.**, Baltimore—Dept. of Public Works, Bureau of Sewers, receives bids Dec. 30 for sewers, Sanitary Contract No. 281.

**Md.**, Hagerstown—J. B. Ferguson & Co., W. Ward St., has contract at \$40,000 for sewer extension, 24, 27, 20 and 18-in. conc. pipe. 12-17

**Okla.**, Durant—City voted \$50,000 sewer disposal and incinerator bonds. 11-26

**S. C.**, Greenville—Harrison-Wright Co., 116 W. Third St., Charlotte, N. C., reported, has contract at \$27,420 for sewers; Dan A. Hulick, City Engr.

**Tex.**, Port Arthur—City, reported, plans voting on \$500,000 bonds for complete system of lateral sewers; J. B. Converse, Consit Engr.

## Telephone and Radio

**Fla.**, Pensacola—Pensacola Broadcasting Co. incorporated; J. C. Pace.

**Ga.**, Midville—Claude W. Hand, reported, leased Midville Telephone System.

**Mo.**, Fredericktown—Southeast Telephone Co., C. W. Boutin, Gen. Mgr., Cape Girardeau, reported, applied to Public Service Comsn., Jefferson City, for permission to purchase Citizens Telephone Co.

**N. C.**, Charlotte—WBT, Earle Gluck, Mgr., reported, expend \$100,000 for new building and equipment at station on York Rd.; plans being prepared by engineering dept. of Columbia Broadcasting System; building will be of conc. and brick. 12-3

**Tex.**, Burkburnett—Southwestern Bell Telephone Co., Dallas, reported, let contract for exchange; install new equipment.

**Tex.**, Houston—City, Jack Luckie, City Electrician, reported, has permit from Federal Radio Comsn. for erection police broadcasting station of central fire and police station; cost \$19,000.

**Tex.**, San Augustine—Sabine Citizens Telephone Co., R. M. Pinkston, Mgr., reported, plans improvements to telephone system serving Hemphill and vicinity in Sabine county.

## Textile Mills

**N. C.**, Charlotte—Hudson Silk Hosiery Co., Inc., F. Seifart, 712 N. Brevard St., purchased equipment for throwing plant from Atwood Machine Co., Stonington, Conn., and from Universal Winding Co., 95 South St., Boston, Mass., for installation in mill under construction. 12-10

**N. C.**, Huntersville—Anchor Mills, reported, let contract to Walker Engineering Co., 517 Harvie Ave., Gastonia, for revamping mills; work includes overhauling card room machinery; rearranging spinning, spooling and warping and shafting; manufacture colored knitting yarns. 12-10

**S. C.**, Lancaster—Greensboro Supply Co., W. A. Hewitt, Greensboro, N. C., advises purchased machinery of former Glimmer Plant, Shreveport, La., and have not disposed of entire layout. (Lancaster Cotton Mills lately incorrectly reported as having purchased the equipment.) 12-10

**S. C.**, Spartanburg—Horace L. Bomar, Atty., Montgomery Bldg., Spartanburg, reported, acquired Spartanburg unit of Yarns Corp. of America, 425 Fourth Ave., New York and Spartanburg.

**Tenn.**, Murfreesboro—Chamber of Commerce, reported, negotiating with capitalists for establishment textile plant in Frank Silk Mills Bldg.

**Texas**—Texas Angora Goat Raisers Assn. appointed Robt. Davis and Frank O. Landrum, Uvalde, Committee to investigate possibility of establishing mohair textile mill in Texas.

**Va.**, Martinsville—Pannill Knitting Co., Cleveland & Waters Sts., reported, construct 4 story addition; increase production knit goods.

## Water Works

**Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that Classification.**

**Md.**, Baltimore—Nathan Trotter & Co., 36 N. Front St., Philadelphia, Pa., reported, low bidder at \$10,295 for 250,000 lbs. pig lead for Bureau of Water Supply.

**Md.**, Pikesville, Baltimore—Bureau of Water Supply, Municipal Bldg., Baltimore, reported, rejected bids for pumping station equipment; will call for new bids in Jan. 11-19

**Mo.**, St. Louis—St. Louis County Water Co., reported, construct stand tower on Florissant Rd., cost \$13,000, and 1 stand tower 8 McKenzie Tract, cost \$11,000.

**Okla.**, Durant—City voted \$12,500 water pump and power station bonds. 11-26

**Okla.**, Enid—City, reported, plans voting on \$250,000 water works bonds.

**W. Va.**, Parkersburg—Viscose Co., reported, granted license by U. S. Engrs., Huntington, to install 16-in. water pipe line together with centrifugal pumps and transmission line on government reservation at Lock No. 1, Little Kanawha River.

## FIRE DAMAGE

**Ark.**, Glenwood—Glendale Theater, operated by J. C. Ligon and J. J. Timms, owned by T. H. Whitted, Amity; Glenwood filling station and garage, owned by Geo. Crawford & Son; Emmitt Dooley Bldg.; loss \$10,000.

**Ark.**, Lonoke—Lonoke Public School; loss \$75,000.

**Ark.**, Mineral Springs—Bldg. occupied by Jones' cotton office and storage room, Mayor R. H. Hallmark's office, Lyle's shoe shop and post office.

**Ark.**, Rosboro—Dixie Theater.

**Ark.**, Tuckerman—A. S. Reigler's residence; loss \$10,000.

**Fla.**, Alachua—Building occupied by McCoy Milling Co., for lumber storage; loss \$25,000.

**La.**, Lake Charles—Warehouse of Niblett Farms, Inc., between Lake Charles and Lake Arthur, at Niblett's Sta.; loss \$85,000.

**Md.**, Frederick—Six garages owned by Wm. C. Roderick, 420 N. Market St.

**Md.**, Westernport—Isaac Adams' residence, owned by Mrs. Ellen Kelly, Cumberland.

**Miss.**, Bentonla—Max Sebelsky Store; owned by W. M. Puffer.

**Mo.**, Appleton City—High School; loss \$30,000.

**Mo.**, Carthage—Standard Machine Mfg. Co.'s plant, 121 Limestone St.; loss \$50,000.

**Mo.**, St. Louis—Building, Mount & Eighth Sts., owned by J. A. Hefner, 4953 McPherson St., occupied by Midwest Waste & Wipers Mfg. Co.

**N. C.**, Boone—Isaacs Dry Goods Store; Farmers Hardware Store; Masonic Hall.

**N. C.**, Raleigh—Storage garage on S. Blount St., owned by H. Hord, Smithfield, occupied by Sanders Motor Co.

**Tex.**, Cuero—Filling station of Henry Luddeke and Emmitt Hill.

**Tex.**, Dallas—Vacant dwelling, 330 S. Windomere St., owned by Judge M. B. Briggs, Gilmer; loss \$6000.

**Tex.**, Duncanville—Post Office, 2 stores, garage, barber shop; loss \$10,000.

**Tex.**, Fort Worth—Mrs. Mabel Verley's residence.

**Tex.**, Henderson—Beacon Oil & Refining Co.'s plant; loss \$35,000.

**Tex.**, Houston—Buildings of J. S. Graham Garage & Repair Shop, Dodge Agency of Heinsohn & Kolem, and Holsto Chevrolet Co.'s garage; loss \$30,000.

**Tex.**, McAllen—Coppie Furniture Co., M. B. Coppie, Owner, State Highway No. 4 bet. McAllen and Pharr; loss \$10,000.

**Tex.**, Port Arthur—H. O. McFarland's residence; loss \$7000.

**Va.**, Pulaski—Jas. L. Bassett's store, East Pulaski.

**W. Va.**, Wheeling—Chas. Brunette's residence, Edgewood; loss \$15,000.

# BUILDING NEWS

## BUILDINGS PROPOSED

### Churches

**Ark.**, Camden—First Methodist Church, J. D. Reynolds, member, Bldg. Comm., erect church to replace structure destroyed by storm; \$25,000 insurance.

**Md.**, Baltimore—United Evangelical Church, Rev. F. W. Schaefer, Pastor, 923 S. East St., plans bldg., Dillon St. and East Ave.; John Freund, Archt., 1307 St. Paul St.; may call for bids in Spring.

**N. C.**, Bixby—Presbyterian Church, Rev. J. W. Foster, Pastor, Presbyterian Church, Cooleemee, interested, plans bldg.

**N. C.**, Winston-Salem—First Presbyterian Church, S. Clay Williams, Chmn., Bldg. Comm., approved plans for \$160,000 Sunday school; ready for bids; fireproof, 2 and 3 stories, 220x50 ft., linoleum floors, limestone, slate roof, steel sash and trim; Northrup & O'Brien, Archts., Reynolds Bldg., Winston-Salem; Dr. Chas. Z. Klauder, Consit. Archt., 1429 Walnut St., Philadelphia, Pa.; Wiley &

Wilson, Heating-Ventilating Engrs., Peoples Natl. Bank Bldg., Lynchburg, Va. 10-22

### City and County

**Ala.**, Anniston—Following have contracts for equipment for Calhoun courthouse: Metal desks, files, counters, costumers, waste baskets, etc., Ordway Paper Co., Anniston, Ala., representing Art Metal Construction Co., Birmingham, \$10,385; cabinet work in 2 courtrooms, A. J. Blyth Co., Mobile, \$3768; seats for courtrooms, American Seating Co., Atlanta, Ga., \$2790; chairs, James A. Head & Co., Birmingham, Ala., \$2699; M. R. Thomas, Archt., 1012 W. 15th St., Anniston, and Lockwood & Poundstone, 101 Marietta Bldg., Atlanta, associated Archts. 7-2

**Ark.**, Camden—Ouachita County Bd. of Commrs., Watt Jordan, County Judge, plans to rebuild court house destroyed by storm.

**Mo.**, Kansas City—Jackson County, Harry S. Truman, Presiding Judge, selected Twelfth and Oak Sts. as site for \$3,500,000 court



house; Edw. F. Neild, Conslt. Archt., City Natl. Bank Bldg., Shreveport, La.; board of local archts. to be selected by Dec. 28; bonds available. 6-4

### Dwellings

D. C., Washington—Everett S. Beall, Jr., 1261 New Hampshire Ave., N. W., has permit for 2 brick and tile dwellings, 4418-22 13th Place, N. E.; 2 stories; total \$20,000.

D. C., Washington—Porter & Lockie, Archts., 2 DuPont Circle, drawing plans for dwelling near Washington; brick and stone, 2½ stories, hardwood floors, slate roof, vapor heat.

D. C., Washington—Frank D. Phillips, 3600 Morrison St., N. W., has permit for brick and frame dwelling, 5613-17 32nd St., N. W.; 2 stories; total \$17,000.

D. C., Washington—A. C. Holmes has permit for \$10,000 brick and tile dwelling, 6125 Western Ave., N. W.; 2 stories.

Ga., Atlanta—N. D. Eubanks, care Capitol City Tobacco Co., 176 Marietta St., N. W., erect brick residence, Rivers Rd.; 2 stories and basement, conc. foundation, hardwood and tile floors, slate or tile roof, steam heat; Burge & Stevens, Archts., 101 Marietta Bldg.; preliminary plans.

Ga., Atlanta—J. R. Jordan & Son, 671 Morningside Drive, N. E., erect brick veneer dwelling, 1749 Pelham Rd., N. E.; 1 story, comp. roof, hot air heat.

Ga., Atlanta—Piedmont Driving Club, 1215 Piedmont Ave., N. E., let contract to Van Winkle & Watkins, 612 Peters Bldg., for frame dwelling, Piedmont Ave. and 15th S., N. E.; 1 story, wood floors, comp. roof.

Ga., Augusta—Mrs. Constance Lewis receiving bids for brick and frame residence; hardwood and tile floors, steam heat; Scroggs & Ewing, Archts., S. F. C. Bldg. Following contractors estimating: H. Anderson; Branch & Smith; C. B. Holley; Clausen-Lawrence Construction Co.; J. B. Mobley; Siebert & Robinson; Wheatley & Mobley.

La., New Orleans—Miss Ethel L. Fisher, 415 N. Broad St., plans residence, Nashville Ave. and Claiborne St.

Md., Baltimore—Herbert A. Gracey, 506 McCabe Ave., erect brick and stone residence, 716 Anneslie Rd., Anneslie.

Md., Chestertown—Mrs. Sarah Toulson having revised plans drawn for residence; may soon take new bids; frame and brick, 2½ stories and basement; W. F. Corkran, Archt., Glenn Ave., Millburn, N. J.

Md., Reisterstown—Dr. James G. Saffell erect stone residence; 2½ stories, 75x50 ft.; I. M. Myers, Archt., Hanover, Pa.; receiving bids.

Miss., Aberdeen—Mrs. Chas. Hamilton about ready for bids for brick residence; 82x40 ft., hardwood floors, asbestos shingle roof, plastered interior; Geo. Mahan, Jr., Archt.; Everett Woods, Asso. Archt., both Manhattan Bk. Bldg., Memphis, Tenn.

Miss., Tutwiler—Presbyterian Church, Rev. Homer McLain, Pastor, erect manse.

Okla., Oklahoma City—John Braniff, 324 N. Robinson St., plans \$75,000 residence; brick, 2 stories; Schumacher & Winkler, Archts.

Tex., Houston—L. G. Rosenberg, 3406 La Branch St., has permit for \$12,800 duplex, 2517 Arbor St.; brick veneer, 14 rooms.

### Government and State

Ala., Montgomery—Additional prospective estimators on \$845,000 post office, bids Jan. 5 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: Murch Bros. Construction Co., St. Louis, Mo.; Upchurch Construction Co., Bell Bldg.; Samford Bros., Inc., 301 Washington Ave., both Montgomery; Theriault Contracting Co., 324 E. Johnson St., Philadelphia, Pa.; Brasted Co., 452 N. Main St., Wichita, Kan.; Libby & Libby Co., 244 Second Ave., S., Minneapolis, Minn.; Mid-Eastern Construction Co., Box 1229, Greensboro, N. C.; J. F. Barbour & Sons, Franklin Road, Roanoke, Va.; Smallman-MacQueen Construction Co., 1109 Fifth Ave., S., Birmingham, Ala.; Ralph Sollitt & Sons Construction Co., 519 E. Sample St., South Bend, Ind.; John Largura & Co., 3672 Adams St., Gary, Ind.; Gray-Knox Marble Co., Sutherland Ave., Knoxville, Tenn.; Newman Manufacturing Co., Norwood Station, Cincinnati, O.; R. P. Farnsworth & Co., Inc., Maritime Bldg., New Orleans, La.; Batson-Cook Co., Inc., West Point, Ga.; National Construction Co., 300 W. Adams St., Chicago, Ill.; Southern Ferro Concrete Co., Atlanta Trust Bldg., Atlanta, Ga.; Robt. E. McKee, 1900 Texas St., El Paso. 12-17

Ark.-Tex., Texarkana—Prospective estimators on \$790,000 post office and Federal bldg., bids Jan. 11 by Treasury Dept., Jas. A. Wet-

more, Act. Supvg. Archt., Washington: P. O'B. Montgomery, Construction Bldg., Dallas, Tex.; Wm. Peterson, Donaghey Bldg., Little Rock, Ark.; Ralph Sollitt & Sons Co., 518 E. Sample St., South Bend, Ind. 12-17

D. C., Washington—Dist. Commrs., Dist. Bldg., opens bids Dec. 29 for sheds, plumbing and elec. work, Farmers Market.

D. C., Washington—Additional prospective estimators on \$6,500,000 addition to Library of Congress, bids Jan. 12 by Architect of the Capitol, David Lynn: Loudoun-Rust Co., 1406 G St., N. W.; W. E. Mooney Co., Inc., 2539 Pennsylvania Ave., N. W.; Goodwin D. Ellsworth, Jr., 1702 K St., N. W.; Fidelity Construction Co., 1218 Randolph St., N. E.; Wm. P. Lipscomb Co., Dist. Natl. Bank Bldg.; A. W. Kutsche & Co., 2111 Woodward Ave., all Washington; P. C. Street Engineering Co., 404 St. Paul St.; J. L. Robinson Construction Co., 522 Park Ave., both Baltimore, Md.; Fleisher Engineering & Construction Co., Wrigley Bldg., Chicago, Ill. 12-17

Fla., St. Petersburg—Additional prospective estimators on Veterans Administration Home, bids Jan. 5 by Veterans Administration, Arlington Bldg., Washington: L. E. Meyers Construction Co., 84 William St., New York; American Elevator & Machine Co., 500 E. Main St., Louisville, Ky.; Wm. A. Miller Elevator Co., 920 N. Main St., St. Louis, Mo.; Capital Life & Manufacturing Co., 424 W. Town St., Columbus, O.; Houghton Elevator & Machine Co., Toledo, O.; Moffatt Machinery Manufacturing Co., 526 W. Third St., Charlotte, N. C.; Otis Elevator Co., 39 Harris St., N. E., Atlanta, Ga.; Westinghouse Electric Elevator Co., 30th and Walnut Sts.; Atlantic Elevator Co., Erie Ave. and D St.; Pennsylvania Engineering Co., 1119 N. Howard St., all Philadelphia, Pa.; Warner Elevator Manufacturing Co., Cincinnati, O.; Weekley Elevator Co., Inc., Bona Allen Bldg., Atlanta, Ga.; Johnston Engineering Co., 959 Central Ave.; Julius Johnson, Box 1151; John H. Bull Co., Inc., 315 Equitable Bldg., all St. Petersburg; Vilter Manufacturing Co., Milwaukee, Wis.; Columbus Iron Works, Columbus, Ga.; Frick Co., Inc., Washington; Grahn Construction Co., Red Rock Bldg., Atlanta; Ricketts & Haworth, 628 Raymond St.; W. P. Richardson Construction Co., P. O. Box 344; Chas. E. Lund & Associates, Inc., 610 Morgan St., St., all Tampa, Fla.; Christy-Dolph Construction Co., Construction Bldg., Dallas, Tex.; Dyson & Co., Fairhope, Ala.; S. S. Jacobs Co., J. M. Raymond Construction Co., both Hildebrandt Bldg., Jacksonville, Fla.; W. S. Barstow & Co., 412 Washington St., Reading, Pa.; Griffin Construction Co., 452 Spring St., N. W., Atlanta; J. A. Jones Construction Co., Commercial Bk. Bldg., Charlotte, N. C.; Bryce Plumbing & Heating Co., Florence, S. C.; H. J. Osterfeld Co., 413 S. Main St., Dayton, O.; Wm. Wilby, 1112 Dallas Ave., Selma, Ala.; Redmon Heating Co., 124 N. Fourth St., Louisville, Ky.; Tibbetts Plumbing & Heating Co., 317 W. Pearl St., Union City, Ind.; J. J. Denzinger, 122 Bullitt St., Louisville, Ky.; Hillard Heating & Plumbing Co., 515 Forsyth Bldg., Atlanta; Great Lakes Construction Co., 333 N. Michigan Ave.; Joseph A. Holpuch Co., 4010 W. Madison St., both Chicago, Ill.; Raymond Concrete Pile Co., 140 Cedar St., New York; National Construction Co., 631 Tower Bldg., Washington; Electric Service Co., Inc., Laurel, Miss.; A. Kleckhefer Elevator Co., 1026 St. Paul Ave., Milwaukee, Wis.; York Ice Machinery Co., 1238 N. 44th St.; Creamery Package Mfg. Co., 2412 Walnut St., both Philadelphia; James McHugh Sons, Inc., 840 W. 70th St., Chicago; R. D. Cole Manufacturing Co., Newnan, Ga.; W. P. Rose Co., Wayne Natl. Bk. Bldg., Goldsboro, N. C.; D. J. Dewar, Largo, Fla.; Rogers & Leventhal, E. 11th St. and Park Ave., Chattanooga, Tenn.; Lovering & Longbotham Co., Ann Arbor, Mich.; R. J. Carlin Construction Co., Chrysler Bldg., New York; W. D. Berry, Box 2105; Pinellas Machine Co., Inc., 832 Third St., S.; E. B. Ring, Inc., Snell Arcade, all St. Petersburg; Pittsburgh-Des Moines Steel Co., Neville Island P. O., Pittsburgh, Pa.; Hughes Well Co., Charleston, S. C.; Chicago Bridge & Iron Co., 1616 Walnut St., Philadelphia; Tippet & Wood, Phillipsburg, N. J.; W. E. Caldwell Co., Inc., 2900 Brandeis St., Louisville; C. O. Moon, 230 12th Ave., N. E., St. Petersburg; J. V. & R. T. Burkes, Inc., 1112 Amer. Bk. Bldg., New Orleans, La.; Columbia Engineering Co., Equitable Bldg., Baltimore, Md.; Sodemann Heat & Power Co., 2300 Morgan St., St. Louis; Worsham Bros., Naval Air Station, Anacostia, Washington; L. E. Myers Construction Co., 84 William St., New York; Berks Engineering Co., Sixth and Chestnut Sts., Reading; R. T. Joughlin & Co., Inc., 1502 Franklin St., Tampa; Pate Co., 2215 First Ave., S., Birmingham, Ala.; Drake-Avery Co., 147 W. Woodbridge St., Detroit, Mich.; W. H. Bond Co., Inc., 318 S. Herrington St., Raleigh, N. C.; Toll Electric Co., 123 S. Girard St., Albuquerque, N. Mex.;

Chas. M. Ewing, 32 Santillane Ave., Coral Gables, Miami, Fla.; Walter S. Johnson Building Co., Inc., Niagara Falls, N. Y.; Sterling Ice Machine Co., Springfield, Mo.; Sedgwick Machine Works, 150 W. 15th St., New York; Walter Benson, 2916 Olga Place, Jacksonville; Connor & Ripstra, 1015 E. Douglas Ave., Wichita, Kan.; W. J. Leroux, Box 2852, Tampa; Virginia Engineering Co., Inc., First Natl. Bk. Bldg., Newport News, Va.; Ring Construction Co., Wesley Temple Bldg., Minneapolis, Minn. 12-17

Ga., Americus—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, opens bids Jan. 11 for extension and remodeling (except elevators) of post office, court house, etc.; drawings from office Supvg. Archt.

Ga., Atlanta—Additional prospective estimators on superstructure of \$1,500,000 post office and Federal bldg., bids Dec. 28 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: General—Pike & Cook Co., Inc., 416 S. Fifth St., Minneapolis, Minn.; Geo. A. Fuller Co., care Rockwood Alabama Stone Co., 57th St. and Madison Ave., New York; Columbia Engineering Co., Equitable Bldg., Baltimore, Md.; H. G. Christman-Burke Co., Fisher Bldg., Detroit, Mich. Elevators—Warner Elevator Manufacturing Co., Cincinnati, O. 12-17

Ga., Augusta—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, opens bids Jan. 4 for remodeling and enlarging post office and court house; drawings from office Supvg. Archt.

N. C., Wadesboro—Prospective estimators on post office, etc., bids Jan. 5 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: Berger Bros., Mooresville, N. C.; Joe B. Martin, Kinney Bldg., Charlotte, N. C.; Jones Bros. & Co., Box 1454, Wilson, N. C.; S. S. Toler & Son, Box 942, Rocky Mount, N. C. 12-17

Okla., Okmulgee—Additional prospective estimators on \$350,000 post office, court house, etc., bids Dec. 28 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: General—Tankersley Construction Co., Cotton Grain Exch. Bldg.; Clarke Construction Co., 1224 W. 34th St., both Oklahoma City, Okla.; Landis & Young, S. Jordan Ave., Bloomington, Ind.; Libby & Libby Co., 244 Second Ave., S.; Ring Construction Co., both Minneapolis, Minn.; Newman Manufacturing Co., Norwood Station, Cincinnati, O.; Chas. Weitz' Sons, Inc., 713 Mulberry St., Des Moines, Iowa; Brasted Co., 452 N. Main St., Wichita, Kan. Elevators—Warner Elevator Manufacturing Co., Cincinnati; Montgomery Elevator Co., Moline, Ill.; Kimball Bros. Co., Ninth St. and 11th Ave., Council Bluffs, Iowa. 12-17

Tenn., Cleveland—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, may soon start work on \$90,000 post office.

Tex., Randolph Field—Officers' Club, care Lt. J. D. Givens, Sec., Bd. of Governors, open bids Jan. 1 for club furnishings and bachelor officers' mess bldg. furnishings; Constructing Quartermaster opens bids about Dec. 24 for photographic equipment for administration bldg., including conc. sinks lined with struc. glass, conc. and slate sinks, plumbing, elec. work, ventilating, etc. 12-3

Tex., Texas City—Prospective estimators on \$80,000 post office, etc., bids Jan. 4 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: Cooke & Maxey, Shawnee, Okla.; H. W. Underhill Construction Co., Constr. Industries Bldg., Dallas, Tex.; Christy-Dolph-Collins Construction Co., Box 955, Beaumont, Tex.; Wm. MacDonald Construction Co., Ry. Exch. Bldg., St. Louis, Mo. 12-17

Va., Hampton Roads, Norfolk—Prospective estimators on administration bldg., Naval Operating Base, Air Station, bids Jan. 6 by Bureau of Yards and Docks, Navy Dept., Washington: W. T. Gregory, Flat Iron Bldg.; Nichols & Lindemann, Inc., Seaboard Bk. Bldg.; R. R. Richardson & Co., Natl. Bk. of Commerce Bldg., all Norfolk; Doyle & Russell, Cent. Natl. Bank Bldg.; W. P. Thurston Co., Box 2089; Wise Granite & Construction Co., Amer. Natl. Bank Bldg., all Richmond, Va.; North-Eastern Construction Co., Nissen Bldg., Winston-Salem, N. C.; Worsham Bros., Med. Arts Bldg., Knoxville, Tenn.; W. F. Martens, 8 Eastland Ave., Rochester, N. Y.; Harwood Construction Co., Law Bldg.; Virginia Engineering Co., Inc., First Natl. Bank Bldg., both Newport News, Va.; A. Lloyd Goode, 328 N. Tryon St.; J. A. Jones Construction Co., Commercial Bank Bldg., both Charlotte, N. C.; W. E. Rowan, Box 1011, Fayetteville, N. C.; Ben Pillow, Sixth and Franklin Sts.; Miller Manufacturing Co., 4329 Hanover Ave.; Davis Bros., Inc., 15 S. Sixth St., all Richmond; A. H. Guilon & Co., 256 W. Main St., Gastonia, N. C.; Virginia Bridge & Iron Co., Roanoke Iron & Bridge Works, Inc., both Roanoke, Va.; English Construction Co.; United Construction Co.; Truscon Steel Co., 305 Hill



Bldg.; Crane Co.; Wm. Bayley Co., all Washington; Consolidated Supply Co., 1102 N. Charles St., Baltimore, Md.; Rosen & Fischel, Inc., 11 S. LaSalle St., Chicago, Ill.; S. S. Tolar & Son, Rocky Mount, N. C.; Hartenstein-Zane Co., Inc., 225 Broadway, New York; Joe B. Martin, 211 Kinney Bldg., Charlotte; Newport Contracting & Engineering Co., Inc., Lee Hall, Va.; Cramp & Co., 17th and Market Sts., Philadelphia, Pa.; H. M. Lucas, 115 Bruce St., Portsmouth, Va.; Hall-Hodges Co., Inc., Ctt. Bk. Bldg., Norfolk; Pease Co., Cincinnati, O.; Dietrich Bros., 220 Pleasant St., Baltimore; Hall-Hodges Co., Norfolk. 12-17

### Hospitals, Sanitariums, Etc.

D. C., Washington—Dept. of Interior has low bid at \$14,900 from Frank Cole for steam heat and hot water service, Freedman's Hospital.

Md., Glenn Dale—Prospective estimators on \$60,000 nurses' home, Children's Tuberculosis Sanatorium, bids Jan. 5 by Dist. Commrs., Room 509, Dist. Bldg., Washington; Bahen & Wright, 916 Rhode Island Ave., N. E.; W. P. Rose Co., Wayne Natl. Bank Bldg., Goldsboro, N. C.; Lacchi Construction Co., Munsey Bldg.; Century Construction Co.; Hearst Tower Bldg., both Baltimore, Md.; Geo. E. Wyne, 2339 Pennsylvania Ave., N. W.; H. W. Cord Co., Inc., 1003 K St., N. W.; Industrial Engineering & Construction Co., 1909 Minnesota Ave., S. E.; Deslaur Construction Co., 2009 R St.; A. Lloyd Goode, Inc., Raleigh Hotel; Frank L. Wagner, 10 L St., S. E.; Skinker & Garrett, 1719 I St., N. W., all Washington; North-Eastern Construction Co., 6 W. Madison St.; Davis Construction Co., 9 W. Chase St., both Baltimore; Geo. F. Hazelwood, Cumberland, Md.; R. W. Erickson, Philadelphia, Pa. 12-17

Miss., Philadelphia—Choctaw Indian Agency, R. J. Enoch, Supt.-Physician, opens bids Jan. 5 for \$13,000 nurses' home; 2 stories. Following contractors to estimate: J. M. DeFraithe, Inc., 612 State St., New Orleans, La.; G. M. Molpus, Route 6, Box 4620, Memphis, Tenn.; R. E. Sundberg Construction Co., Mobile, Ala.; W. L. Perry; Jim Hays; Strum & Burnett, all Philadelphia. 11-26

Mo., St. Louis—Sisters of Mercy, operating St. Johns Hospital, erect \$250,000 clinic, Park Place; 4 stories; connected with hospital by 2-story bridge; first and top floors stone, remainder brick, 135x100 ft., L shape; Mother Aloysius, in charge; Geo. D. Barnett, Inc., Archt., Synd. Trust Bldg. See Buildings Proposed—Miscellaneous.

Tenn., Bolivar—State, Richard H. Lyle, Commr. of Institutions, let contract to Rock City Construction Co., 137 Fourth Ave. N., for dormitory for negroes, Western State Hospital; Henry C. Hibbs, Archt., Amer. Trust Bldg., all Nashville. 12-17

Tex., Longview—Mrs. Nora C. Davis, operating Longview General Hospital and Emergency Hospital, plans 10-bed annex to Emergency Hospital.

### Hotels and Apartments

Ala., Albertville—Geo. Saunders erect brick veneer hotel; stone trim, 2 stories and basement, 75x75 ft., conc. foundation, wood and tile floors, comp. roof, steam heat; 25 rooms; Chas. H. McCauley, Archt., 709 Jackson Bldg., Birmingham; completing plans.

Ala., Livingston—Livingston Hotel Co., Jas. A. Mitchell, Chmn., Bd. of Directors, extended date of bids to Dec. 29 for New Livingston Hotel; plans with owners and office Wm. Leslie Welton, Archt., 19th floor, American Trust Bldg., Birmingham, Ala.; additional estimators: Nobinger & Hooks, 715 Mimo St., S. W.; J. E. Wooley, 715 S. 27th St., both Birmingham; Chambers & Hightower, Athens; A. C. Samford, Montgomery; J. O. Hollman, Tuscaloosa; L. W. Hancock, Meridian, Miss. 12-3

Fla., Miami—Foster Holt, Philadelphia, Pa., agent for group which purchased Villa D'este; start work at once on \$30,000 improvements.

Fla., Miami Beach—Mr. Corbett, care Wm. F. Brown, Archt., 653 Washington Ave., having plans drawn for cement block hotel, Collins Ave. near 13th St.; 2 stories, 40x125 ft., tile and hardwood floors, spread footing foundation, cast stone, asbestos shingle roof, sprinklers; open bids in Feb.

La., New Orleans—A. W. Mysing remodel bldg., 722 St. Louis St., for apartment house.

Mo., Moberly—C. P. Van Graafeland, Arcade Bldg., St. Louis, may erect 5- or 6-story hotel; rein. conc.; may have theater in connection; H. W. Van Skike, representative, Kirksville.

Va., Cape Charles—H. F. Bonville erect hotel; H. Robt. Diehl, Archt., 717 W. 35th St., Norfolk.

Va., Virginia Beach—G. H. Peters, Norfolk, submitted low bid at \$19,450 to alter and enlarge Ivanhoe Cottage.

### Miscellaneous

Fla., Charlotte Harbor—Chas. Barber, 4704 Frankford Ave., Baltimore, Md., and Solana, Punta Gorda, plans bungalow, 17 tourist houses and filling station.

Mo., Carthage—I. F. Lewis and J. H. Lewis, Colorado Springs, Colo., Maxwell Jones, representative, plan to expend \$15,000 during 1932 on bldgs., swimming pool, playground and wading pool for Devil's Washpan Fishing Club, Inc., Highway No. 66, 31 miles from Carthage.

Mo., St. Louis—Sisters of Mercy, Mother Ignatius, plans 17-story business women's home, Lindell Blvd. and Sarah St., during 1932; also plans to start work at once on \$250,000 clinic in conjunction with St. Johns Hospital; home to have 4 units; 17-story tower to accommodate 200 sisters; two 7-story wings, accom. 200 each, connected by 7-story bridges to main section; 3-story T-shape chapel to seat 600; recreational and dining facilities, 4 elevators, separate entrances; structure set-back type, stone for first 3 floor, remainder brick, 193x180 ft.; George D. Barnett, Inc., Archts., Synd. Tr. Bldg.

N. C., Charlotte—Dixie Fishing and Recreation Club, Inc., J. B. Spratt, Mgr., 7 E. Fifth St., erect clubhouse and cottages and construct bathing pool, 6 miles west of Charlotte.

Tenn., Knoxville—Weaver's Funeral Home, Ray Weaver, Pres., remodel bldg., 303 Market St.; \$18,000; completing plans.

Va., Richmond—Billups Funeral Parlor, 2500 E. Marshall St., rejected bids to alter and enlarge bldg.; Carl M. Lindner, Archt., State Planters Bank Bldg. 11-26

### Schools

Ark., Forrest City—Forrest City Special School Dist. No. 7, Bruce Smith, Sec., opens bids Jan. 11 for \$30,000 school for negroes; brick and frame, 2 stories, 100x120 ft., wood floors, conc. foundation, slate and comp. roof; W. C. Lester, Archt., Dermon Bldg., Memphis, Tenn. 12-17

Ark., Lonoke—Lonoke School Dist., Chas. A. Walls, Pres., School Bd., erect \$60,000 to \$75,000 bldg. to replace school noted burned.

D. C., Washington—Dist. Commrs., 427 Dist. Bldg., have low bid at \$131,850 from Little Construction Co., Builders Bldg., Charlotte, N. C., for addition to Douglas and Simmons schools. 12-10

Fla., Homestead—Dade County Bd. of Public Instruction, Miami, has low bid from M. P. Wallam, Homestead, at \$14,383, for gymnasium at Redland School. 12-3

Ga., Gainesville—River Bend Consolidated School Dist. of Hall County, J. D. Underwood, Supt., Court House, plans 1-story, 6-room school near Gainesville; election Dec. 29 on \$10,000 bonds; plans by State Dept. of School House Planning, 248 State Capitol, Atlanta.

### Association and Fraternal

Ala., Dothan—Ancient Free and Accepted Masons let contract for \$45,000 temple to H. H. Brown, Dothan; brick, cast stone trim, 3 stories, 88x60 ft., conc. foundation, comp. roof, steam heat; Edw. Okel, Archt., Bell Bldg., Montgomery. 11-26

### Bank and Office

Mo., St. Louis—Otis Elevator Co., 2301 Locust Ave., has elevator modernization contract for New York Life Insurance Co. bldg. remodeling; Henry-Lourey Engineering Co., Engrs., 114 W. Tenth St. 10-15

Tex., Tyler—Austin Bros., 1815 Coombs St., Dallas, reported, have contract for 375 tons conc. bars for \$300,000 Peoples National Bank; Alfred C. Finn, Archt., 505 Bankers Mtg. Bldg.; American Construction Co., Contr., Gulf Bldg., both Houston. 11-12

### Churches

Md., Baltimore—Following sub-contracts let on \$175,000 superstructure of Pro-Cathedral unit of proposed cathedral group: Plumbing, L. J. McGuire, 14 W. Clay St.; elec. work, Chas. A. Russell, 10 W. Chase St.; heating and ventilating, Enterprise Steam & Hot Water Heating Co., 619 W. Franklin St.; rein. steel, Dietrich Bros., 220 E. Pleasant St.; linoleum flooring, Guaranteed Floors Co.,

Ga., Lake Park—City Bd. of School Trustees, Ewell Brown, Chmn., erect \$18,000 school; brick, 1 story, wood floors, comp. roof; plans by State Dept. of Education, Atlanta; bids in.

Md., Baltimore—Municipal Architectural Comsn. appointed architects for 2 school additions: 12-room addition, Hamilton School, No. 236, Clyde N. & Nelson Friz, Lexington Bldg.; School No. 68, Millington Lane and Lehman St., John A. Ahlers, 529 N. Charles St.

Tex., Dallas—City Bd. of Education, C. M. Moore, Business Mgr., selected R. C. Jameson, S. W. Life Bldg., as struc. engr. for \$200,000 first unit of \$350,000 Junior High School, Trinity River section; about 10 classrooms, auditorium, gymnasium and lunch room facilities; Bryan & Sharp, Archts., Constr. Industries Bldg. 12-8

Tex., San Antonio—City Bd. of Education has low bid at \$24,114 from Summer-Sollitt Co., Natl. Bank of Comm. Bldg., for addition to Herff School No. 18; low heating and plumbing bid, A. J. Monier & Co., 1446 N. Flores St., \$8499; elec. work, Thomson Electric Co., 1615 Broadway, \$949; Ellis Albaugh, Archt., 941 Austin St.; L. D. Royer, Mech. Engr., Smith-Young Tower; Lilly & Drought, Engrs., Frost Natl. Bank Bldg.; Phelps & DeWees, School Archts., Gunter Bldg. 12-17

Va., Remington—Fauquier County School Bd., Warrenton, opens bids Dec. 29 for school; \$30,000, Type B, fireproof, 2 stories, 120x140 ft., conc., hardwood and mastic tile floors, cast stone, metal doors, built-up flat and slag roof, steel sash, hollow and interior tile, terra cotta coping, ventilators; L. E. Warner, Archt., Grace St. Bank & Trust Bldg., Richmond. 11-12

Va., Norfolk—City Bd. of Education advises erection of \$700,000 junior high school indefinitely postponed; Calrow, Browne & FitzGibbon, Archts., Royster Bldg. 9-6

Va., Roanoke—Roanoke County School Bd., Salem, plans to purchase site, Roanoke-Salem highway for 4-room elementary school to serve Edgewood, Sunset Village, Lakeside and Conehurst. 10-22

### Stores

N. C., New Bern—Coplon Investment Co., Chas. Coplon, New York, rebuild structure lately noted burned at about \$200,000 loss; lease to Belk Co. for department store. 12-17

Tex., Dallas—Oak Cliff Development Co., D. B. Blaine, Pres., 628 N. Zangs St., erect business bldg. fronting 350 ft. on Jefferson St.

W. Va., Bluefield—S. S. Kresge Co., 2727 Second St., Detroit, Mich., reported, plans 2- or 3-story and basement store, Federal and Bland Sts.

### Theatres

Va., Williamsburg—Luther E. Warner, Archt., Grace Securities Bldg., has drawn plans for moving picture theater.

## BUILDING CONTRACTS AWARDED

213 East St.: millwork, Jos. Thomas & Son, Inc., 836 Leadenhall St., all Baltimore; painting, Edw. W. Minte Co., 1213 12th St., N. W., Washington; structure stone, flagstone and tile floors, limestone, marble, slate roof, steel sash and trim; Frohman, Robb & Little, Archts., 726 Jackson Place, Washington; M. A. Long Co., Contr., 10 W. Chase St., Baltimore. 11-12

Okla., Tulsa—Following sub-contracts let on \$100,000 Temple Israel synagogue: Plumbing, F. A. Former Co., 1235 S. Peoria St.; wiring, McCallum Electric Co., 506½ S. Detroit St.; millwork and lumber, Producers Lumber Co., 510 E. 11th St., and Wade Talbot Lumber Co., 521 E. 11th St.; hardware, Builders Hardware Co., 121 W. Eighth St.; struc. and rein. steel, North American Car Corp., World Bldg.; Donald McCormick, Archt., Atlas Life Bldg.; Geo. Forner, Contr., 1617 S. St. Louis St. 7-30

### City and County

Ala., Ensley, Birmingham—City, A. J. Hawkins, City Engr., erect frame stable, Avenue F, Ensley; 1 story, 56 stalls, conc. floors, built-up roof; E. B. Van Keuren, Inc., Archts., 2025 Comer Bldg., Birmingham.

Okla., Pawnee—Pawnee County Bd. of Commrs. let contract at \$119,800 to Manhattan Construction Co., Philcade Bldg., Tulsa, for court house; heating and plumbing, J. L. Swafford Heating Co., 1724 N. W. Fifth



St., Oklahoma City, at \$16,794; wiring, Griffith Electric Co., 224 W. 23rd St., Oklahoma City, \$4127; brick, stone and rein. conc., 5 stories, jail on top floor, 85x100 ft.; Smith & Senter, Archts., Philtower Bldg., Oklahoma City. 11-26

Va., Lynchburg—City, R. W. B. Hart, City Mgr., let contract at \$139,000 to J. A. Fix & Sons, Lynch Bldg., for armory market; Johnson & Brannan, Archts., Peoples Natl. Bank Bldg. 11-5

Va., Norfolk—City let contract at \$20,600 to E. E. Weddle & Co., Board of Trade Bldg., for alterations and additions to Driver Bldg., Freemason and Boush Sts.

Va., Richmond—City Council, Henry P. Beck, Bldg. Inspector, started work on altering second floor of city hall.

### Dwellings

Ark., Fort Smith—Heber Denman, Paris, completed basement for \$13,000 residence, Weist St. and Horan Drive; white brick, hollow tile, 2 stories and basement, 68x30 ft., oak floors, Chris Reichard, Archt., First Natl. Bank Bldg.; Walter Vernon, Contr., Nakdimen Bldg., both Fort Smith. 12-10

D. C., Washington—Security Building & Construction Co. has permit for 4 brick dwellings, 5200-06 Fourth St., N. W.; 2 stories; total \$28,000.

D. C., Washington—Jas. McClellan, 3827 Livingston St., N. W., has permit for 2 brick and tile dwellings, 5804-08 Broad Branch Rd.; 2½ stories, slate roof, hot water heat; total \$16,000; owner builds.

D. C., Washington—J. E. Douglass Construction Co., 1621 K St., N. W., has permit for 7 brick dwellings, 54-64 Longfellow St. and 5539 First St.; 2 stories, tin roofs, hot water heat; total \$35,000.

D. C., Washington—W. C. & A. N. Miller, 1119 17th St., N. W., have permit for \$18,600 dwelling, 4901 Hillbrook Lane, N. W.; stone; owners build.

D. C., Washington—Columbia Construction Co., Ninth & Dahlia Sts., N. W., has permit for 2 dwellings, 2804 Military Rd., N. W., and 5466 28th St., N. W.; 1½ and 2 stories; total \$17,000.

Fla., Miami—E. P. Priis, Contr., 101 N. E. 87th St., soon start work on dwelling and garage.

Fla., West Palm Beach—Vincent Bendix, 705 W. Adams St., Chicago, Ill., and West Palm Beach, reported, let contract to Arnold Construction Co., Murray Bldg., Palm Beach, for \$350,000 residence, garage, servants' quarters, etc.; rein. conc., struc. steel, hollow tile, brick, stucco, tile and terrazzo, wrought iron, bronze, cast stone, Cuban tile roof, Vitrolite partitions, 2 stories and basement; Volk & Maass, Archts., West Palm Beach. 8-20

Ga., Atlanta—J. R. Jordan & Son, 671 Morningside Drive, N. E., erect brick veneer dwelling, 749 Pelham Rd., N. E.; 1 story, 6 rooms and bath, hardwood and tile floors, comp. roof, steam heat; owners build.

Ga., Atlanta—Thos. B. Thrallkill, 1232 Boulevard Drive, N. E., erect brick veneer residence, 121 Mathewson Place, S. W.; comp. roof, hot air heat; day labor.

Ga., Atlanta—Chas. Black, Jr., New Cit. & Sou. Bk. Bldg., considers erecting \$25,000 dwelling, Tuxedo Park; brick, 2 stories and basement, conc. foundation, hardwood and tile floors, tile or slate roof, steam heat; Frazier & Bodin, Archts., Candler Bldg.; owner builds.

Md., Baltimore—E. C. Lilley erect brick, conc. block and stucco residence, 5612-22 Stonington Ave.; 2 stories, 15x40 ft., oak, comp. and linoleum floors, stone foundations, steel sash and trim, built-up asphalt roofs; L. J. Schoenlein, Archt., 5012 Gwynn Oak Ave.; Poplar Grove Development Co., Contr., 5012 Gwynn Oak Ave. See Want Section—Building Material and Equipment.

Md., Baltimore—Crown Realty Co., Chas. C. Krauss, 2013 Rosalie Ave., erect 2 brick and shingle dwellings and garages, 3103-05 Royston Ave.; 2 stories, 20x30 ft. and 12x20 ft. may start work early in 1932 on 2 one-story brick dwellings, Rosalie Ave. near Harford Rd.; owner builds.

Md., Baltimore—Longwood Realty Co., Harry L. and John J. Dubbelde, 2900 Gwynns Falls Pkwy., plans to start work in Spring on number dwellings, Longwood St.; brick, 2 stories; owner builds.

Md., Owings Mills—L. A. Knight erect stucco residence, Pleasant Hill Rd. near Owings Mills; contract let.

Mo., St. Louis—Norman J. Smith, 7608 Carondelet St., erect 3 brick dwellings, 1330-04 Louisville St.; 1 story, 24x40 ft., comp. shingle roofs, hot air heat; total \$14,000; plans and constr. by owner.

Okla., Oklahoma City—C. G. Beveridge, Local Bldg. & Loan Bldg., erect \$12,000 residence near Oklahoma City; native stone, 2 stories and basement, 35x65 ft.; owner builds.

Va., Fredericksburg—Jas. T. Horton remodel and enlarge residence; B. W. Showalter, Contr., 2820 Hawthorne Ave., Richmond.

Tex., San Antonio—H. J. von Rosenberg, 1515 N. Alamo St., has contract for brick veneer dwelling, Olmos Park Estates; 2 stories, 2 baths, conc. foundation, shingle tile roof; Office of Olin Boese and Thomas B. Thompson, Archts., Bldrs. Exch. Bldg.; W. E. Simpson Co., Engrs., 942 Milam Bldg.

### Government and State

D. C., Washington—Navy Dept., Bureau of Yards and Docks, let contract at \$101,443 to Angle-Blackford Co., N. C. Bank Bldg., Greensboro, N. C., for extension to bldg., Naval Research Laboratory, Bellevue; about 128x61 ft., 3 stories, basement and pent house, conc. foundation and frame, brick, art stone and terra cotta trim, steel windows, asphalt tile. 12-17

Fla., Jacksonville—A. E. Grant, 2649 Dale Court, Jacksonville, has plumbing and heating contract for \$600,000 parcel post bldg.; James I. Barnes, Contr., Logansport, Ind. 11-26

Fla., Miami—Additional sub-contracts on \$2,080,000 post office, court house, custom house, etc.: Roofing and sheet metal, Miami Roofing & Sheet Metal Co., 127 N. W. Fifth St.; sand and rock, I. E. Schilling Co., S. W. Fourth St. exterior quarry key stone, marble and setting, John B. Orr, Inc., 147 N. E. Sixth St. Ralph Sollitt & Sons Construction Co., Contr., 1203 Realty Bldg., Miami, and 228 N. LaSalle St., Chicago, Ill. 12-10

Ga., Albany—Treasury Dept., Jas. A. Wetmore, Act. Suprv. Archt., Washington, let contract at \$18,930 to General Engineering Corp., Upper Darby, Pa., to remodel and enlarge post office and court house. 12-17

La., Barksdale Field, Shreveport—Southwestern Specialty Co., Inc., 125 Guadalupe St., has contract at \$24,250 for kitchen equipment for air corps barracks, Barksdale Field.

Mo., Kansas City—Carthage Marble Corp., Carthage, Mo., has \$45,000 Carthage stone contract for retaining walls, driveway walls and curbs for \$4,500,000 post office; Ring Construction Co., Contr., 814 Wesley Temple Bldg., Minneapolis, Minn., and care new post office, Kansas City. 9-3

N. C., Greensboro—Gulford Electrical Co., 216 W. Market St., Greensboro, have elec. sub-contract for \$660,000 post office, etc.; Geo. H. Rommel Co., Contr., 958 Logan St., Louisville, Ky. 12-3

Okla., El Reno—Dept. of Justice, Bureau of Prisons, Sanford Bates, Director, Washington, let contract for administration and receiving bldg. for first unit of \$3,000,000 Federal Reformatory to W. S. Bellows Co., Oklahoma Savings & Loan Bldg.; Hawk & Parr, Archts., First Natl. Bank Bldg., both Oklahoma City. 12-10

Tenn., Elizabethton—Treasury Dept., Jas. A. Wetmore, Act. Suprv. Archt., Washington, let contract to C. A. Morrison & Son, Shelby, N. C., for \$75,000 post office; fireproof, rein. conc., 2 stories and basement, 200x100 ft., conc. hardwood, linoleum, terrazzo, tile, comp. and marble floors, slate and comp. roof, elec. refrigerators, elevators, limestone, marble, metal doors, rolling partitions, steel sash and trim, gypsum, hollow and interior tile, vaults, wire glass, brass and bronze work. See Want Section—Building Material and Equipment. 12-17

Va., Langley Field, Hampton—Constructing Quartermaster let contract to M. H. Sobel Co., Book Tower, Detroit, Mich., for 6 single and 4 double company officers' quarters; brick, hollow tile and stucco, 2 stories, 53x53 ft. and 105x30 ft., limestone, linoleum floors, steel sash. 11-26

### Hospitals, Sanitariums, Etc.

D. C., Washington—Dept. of Interior let contract at \$343,900 to W. E. O'Neill Construction Co., 308 W. Washington St., Chicago, Ill., for continued treatment bldgs. Nos. 1 and 2, dining hall and kitchen bldg. and connecting corridors, including plumbing, heating and ventilating, elec. work, special hospital equipment and outside service connections, St. Elizabeths Hospital; elevators, Atlantic Elevator Co., Inc., D St. and Erie Ave., Philadelphia, Pa., at \$2490; refrigeration plant, Boyle-Robertson, Inc., Evans Bldg., Washington. 11-26

Mo., Springfield—Sheffield Steel Corp., Kansas City, has contract for 750 tons steel for hospital for defective delinquents for Dept. of Justice, Bureau of Prisons, Washington; Jos. A. Holpuch Co., Contr., 4010 W. Madison St., Chicago, Ill.; Joannes & Marlow, Archts., 420 Lexington Ave., New York.

Va., Newport News—Buxton Hospital let contract at about \$69,000 to Harwood Construction Co., Law Bldg., Newport News, for addition; Peebles & Ferguson, Archts., Law Bldg., Norfolk. 11-12

Va., Norfolk—City let contract at \$45,360 to R. R. Richardson & Co., Inc., 407 Bk. of Commerce Bldg., for Henry A. Wise Memorial Hospital bldg. at municipal center, Princess Anne County; brick, 2 stories, conc. floors and roof on metal joists, conc. foundation; Wickham C. Taylor, Archt., Seaboard-Cit. Bk. Bldg.; engineering by Contr. 11-5

### Hotels and Apartments

D. C., Washington—Sullivan Bros., 819 15th St., N. W., erect 2 brick apartments, Fifth St., N. E., near G St.; 2 stories, 19x46 ft., tin roof, steam heat, tile bath; Geo. T. Santmyers, Archt., 925 15th St., N. W.; owners build.

D. C., Washington—Woodbridge Realty Co., 2377 Rhode Island Ave., N. E., erect 6 apartments, 2601-11 Franklin St., N. W.; brick, 2 stories, tin roofs, hot water heat; total \$50,000; Geo. T. Santmyers, Archt., 925 15th St., N. W.; owner builds.

Ga., Atlanta—Briarcliff Investment Co., 1050 Ponce de Leon Ave., N. E., remodel St. Andrews Apt., W. Peachtree and 11th St.; rein. conc., millwork, limestone, orna. iron, etc.; Brazell, Miller & Newbanks, Contrs., Norris Bldg.

Tex., Spearman—Woods Construction Co., Mineral Wells, has contract to erect \$50,000 hotel; face brick front and east side, 3 stories, 50x110 ft., 40 rooms, 2 entrances, lobby, coffee shop and drug store.

Va., Fredericksburg—J. T. Horton excavating for \$25,000 tourist hotel; steel, brick and conc., 2 stories, 40x90 ft., conc. floors and foundation; Courtney S. Welton, Archt.; B. W. Showalter, Contr., 2820 Hawthorne Ave., both Richmond; heating and plumbing to be let by owner. See Want Section—Building Material and Equipment.

### Miscellaneous

Va., Williamsburg—Williamsburg Holding Corp. about ready to start rebuilding governors' palace; governors' office and guard house later; Todd & Brown, Inc., Contrs.; Robt. Trimble, Jr., mgr. in charge of all restoration work; Perry, Shaw & Hepburn, Archts., 141 Milk St., Boston, Mass. 2-5

### Schools

Ga., Atlanta—Atlanta University let contract to Barge-Thompson Co., 136 Ellis St., N. E., for 52x319-ft. irregular sized men's and 198x118-ft., L-shape women's dormitories; structures connected; both 4 stories, rein. conc., face brick, hollow tile, limestone, misc. and orna. iron and steel, asphalt tile floors, terrazzo, tile, slate roof, wood windows, copper cornices and cupola, kitchen equipment; John Gamble Rogers, Inc., Archt., 154 E. 46th St., New York. 10-15

La., Jeanerette—Iberia Parish School Bd., New Iberia, let contract to J. A. Gilbin, New Iberia, for negro elementary school; frame and brick, 1 story, wood floors, corrugated iron hip roof; Wm. T. Nolan, Archt.-Engr., Canal Bank Bldg., New Orleans. 12-17

La., Lake Charles—Calcasieu Parish School Bd. let contract at \$53,494 to T. A. Pittman, Inc., Canal Bank Bldg., New Orleans, for Lagrange elementary school; brick, 2 stories; Herman J. Duncan & Co., Inc., Archas.-Constr. Supvrs., 120 Murray St., Alexandria. 12-3

La., Mansfield—DeSoto Parish School Bd. let contract at \$12,800 to C. M. Corbin, Mansfield, for cafeteria and gymnasium at high school; brick and steel, 1 story, 70x100 ft., iron work, rein. conc. foundation, built-up comp. roof, steel sash, sheet metal work; Edw. F. Neild, Archt., City Bank Bldg., Shreveport. 11-19

La., Mansfield—DeSoto Parish School Bd. let contract at \$12,800 to C. M. Corbin, Mansfield, for gymnasium; brick, 1 story, steel roof; Edw. F. Neild, Archt., City Bank Bldg., Shreveport. 11-19

S. C., Beaufort—Bd. of School Trustees let contract at \$21,730 to W. A. Crary & Son, 1226 Sumter St., Columbia, for grammar school; brick, hardwood floors, comp. hip roof; Jas. B. Urquhart, Archt., Central Union Bldg., Columbia. 11-26

S. C., Columbia—School Dist. No. 1 Bd. of Commrs., Richland County, let contract at \$10,438 to W. A. Crary & Son, 1226 Sumter St., for administration bldg.; brick, 2 stories; cast stone, hardwood and terrazzo floors, built-up roof, hollow tile, vault door. Jas. B. Urquhart, Archt., Central Union Bldg.

Tenn., Nashville—Following principal sub-contracts let on \$500,000 East Nashville High



School, for which excavation has been started: Excavation, W. L. Halley Co., Cotton States Bldg.; rein. steel, Wilson-Weesner-Wilkinson Co., 801 Fatherland St.; struc. steel erected, Nashville Bridge Co., Shelby Ave.; tile, terrazzo, slate and marble, H. E. Parker Co., 801 Fifth Ave., North; roofing, Taylor Roofing Co., 210 Second Ave., South; sheet metal work, C. H. Reese, 1309 Church St.; plumbing, heating and ventilating, J. M. Gallagher, 119 Fifth Ave., North; conc. materials, T. L. Herbert & Sons, 174 Third Ave., North; masonry work, Bush & Jones, 220 First Ave., S.; millwork, J. E. Chilton Millwork & Lumber Co., 512 27th Ave., N. & T. C. R. R.; wood doors, wood sash and glass, Beasley & Sons Co., 148 Third Ave., N., Nashville; cut stone, Ingalls Stone Co., Bedford, Ind.; Marr & Holman, Archts., 702 Stahlman Bldg., Nashville; V. L. Nicholson Co., Contr., Ind. Bldg., Nashville, and 601 S. Central St., Knoxville. 11-12

Tenn., Nashville—Nashville Bridge Co., reported, has contract for 140 tons struc. steel for \$500,000 East Nashville High School; Marr & Holman, Archts., 702 Stahlman Bldg.; V. L. Nicholson & Co., Contrs., Independent Bldg. 11-12

Tex., San Antonio—City Bd. of Education let contract at \$30,232 to Geo. E. Wieland, 808 Travis Bldg., for addition to Robert E. Lee School No. 30; plumbing, West & Gutzelt, 431 S. St. Marys St., \$1178; heating, A. J. Monler & Co., 1445 N. St. Marys St.,

at \$6396; elec. work, Ed Tengg, 220 W. Commerce St., at \$1450; wall bearing masonry, 1 story, 6 rooms and cafeteria, 166x65 ft., bar joist roof; Geo. Willis, Archt., Bldrs. Exch. Bldg.; L. D. Royer, Mech. Engr., Smith-Young Tower; Matthews & Kenan, Engrs., 1616 Smith-Young Tower; Phelps & DeWees, School Archts., Gunter Bldg. 12-17

### Stores

D. C., Washington—Geo. B. Furman, 1409 L St., N. W., erect brick store and apartment bldg., 1113-15 13th St.; 2 stories, slag roof, steam heat; A. S. J. Atkinson, Archt., 3801 Macomb St., N. W.; owner builds.

Fla., Miami—Paul's Tire Store, Paul Zee, remodel first floor; remove partitions, beams, etc., and replace 2 30-ft. I-beams, build new front; owner probably builds.

La., New Orleans—Williams, Inc., Whitney Bldg., let contract to Gervais F. Favrot, Balter Bldg., for \$50,000 store to be leased to W. T. Grant Co., 1441 Broadway, New York; brick, cast stone trim, 2 stories, 128x62 ft., rein. conc., foundation, struc. steel, steel sash, comp. roof, gas radiators, ventilating system, sheet metal work, plate glass windows, 2 elevators; plans by lessee's archt.

Md., Baltimore—Electric Welding Company of America, foot of Block St., has elec. welding contract for 6-story and basement addition to Hutzler Bros.' department store; Office of Joseph Evans Sperry, Archt., Cal-

vert Bldg.; Herman Doeelman, Struc. Engr.; Jas. Posey, Mech. Engr., both Balto. Trust Bldg.; Consolidated Engineering Co., Inc., Contr., 20 E. Franklin St. 12-10

Md., Baltimore—John Dernoga, 2236 Sidney Ave., erect 2-story brick store and apartment, 2215 Annapolis Blvd.; F. Edw. Tormey, Jr., Archt., 8 E. Lexington St.; Fred Keller & Son, Contrs., 3405 Echdale Ave.

Md., Baltimore—Mrs. Agnes Bell, 24 N. Milton Ave., erect brick store and residence, 6700-02 Harford Rd.; 2 stories, 17x50 ft.; Howard F. Mason, Archt., 2001 Dukeland St.; John H. Otto, Contr., Henry Ave., Fullerton.

### Theatres

Tenn., Chattanooga—Independent Theaters, Inc., 527 Market St., let contract on cost plus basis to Rogers & Leventhal, 11th St., to remodel 2-story theater, 39-41 E. Main St.; \$20,000; 50x130 ft.; address proposals on furnishings, equipment, etc., \$10,000, to owners; Wm. Crutchfield, Archt., First Natl. Bank Bldg.; work started.

### Warehouses

Tex., Dallas—State Highway Dept., Austin; let contract at \$12,400 to Abilene Construction Co., Abilene, for warehouse, Highway No. 6 near Dallas.

## WANT SECTION

### THE CLASSIFICATIONS IN THIS SECTION ARE:

#### Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

#### Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

#### Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

#### Machinery and Supplies

Cars.—See Miscellaneous.

Condensers (Distillery).—Robinson R. Stabler, 109 E. Washington St., Greensboro, N. C.—Wants prices and data from manufacturers of condensers for condensing vapors incident to distilling process; of sufficient capacity to condense steam in 12-in. pipe under 2-lb. pressure.

Crusher.—Consolidated Steel Products Co., 1410 W. Clay St., Richmond, Va.—Wants prices and data on single or double roll crusher, 24x24 or thereabouts, preferably Jeffrey or McLanahan.

Fish Meal Producing Equipment.—David C. Chapa, Apartado (P. O. Box) 133 Bis, Mexico City, D. F., plans establishing fishing station on west coast of Mexico—Wants prices and data on necessary equipment for producing fish meal for fertilizer and chicken feed; will consider used equipment; wants full information as to capacity, power needed, etc.

Gas and Oil Burner Equipment.—Federal Steam Specialties Co., 120-28 E. Main St., Oklahoma City, Okla.—Wants quotations on oil burner for U. S. post office, Sapulpa, Okla., consisting of fan and rotary or gear type oil pump, direct connected to electric motor, mounted on cast iron base; proper number of combination oil and gas burners for 5000 sq. ft. capacity; burners for either oil or gas, arranged in center of same and primary air entering around oil nozzle; burners to swing or slide back out of opening in steel fronts and automatically stop flow of oil when burners are pulled out of furnace; all to handle heavy oil (bunker C—without preheating; 2-in. strainer in suction, strainer between burner and return, relief valve between burner and return, pressure gauge in return, regulators to regulate (a) amount of oil and gas up to 10-lb. pressure, (b) regulating devices to also regulate primary and secondary air of oil or gas, (c) safety device cut off oil in case electricity fails, (d) in case fire is extinguished cut off oil or gas, (e) 8-in. gong to ring in case current fails or fire is extinguished, (f) device to cut off flow of oil or gas in case of low water.

Turbine Non-condensing Unit.—J. J. Foster (Mech. Dealer), 62 Willow Ave., West Somerville, Mass.—Wants prices and data on 150 to 200-kw. d. c., 250-volt turbine non-condensing unit; can be for 125 lb. pressure or mixed pressure; must be in East; good condition.

Pipe Threading Machine.—B. W. Gahagan, Walnut, N. C.—Wants prices and data on Toledo pipe threading machines with dies for pipe up to 8 in.

W. M. Smith & Co. (Mech. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on:

- (1) Clutch Pulley—30 to 50-in. diam., 12-in. face or wider, for transmitting 50 h. p. or more, used.
- (2) Locomotive (Gasoline)—30 ton, standard gauge.

Clark Construction Co., Ed Clark, Thordale, Tex.—Wants following:

- (1) Asphalt Spreaders
- (2) Rock Crushers—400 to 700 cu. yds. daily capacity.

Consolidated Steel Products Co., 1410 W. Clay St., Richmond, Va.—Wants prices and data on:

- (1) Cars—four, 2-yd., Koppel or Eastern, 2-way, side dump, steel, 36-in. gauge; six, 4-yd., standard gauge, 2-way dump, for hauling clay
- (2) Crane—10 ton, electric, traveling, 30 ft. span, fully equipped to include generator
- (3) Hoist—40 h. p., steam, double drum
- (4) Jaw Crusher, Elevator and Screen—for portable stone crushing plant
- (4) Stone Crusher—No. 6, gyratory.

Equitable Equipment Co., Inc., Elysian Fields Ave. and Florida Walk, New Orleans, La.—Wants prices and data on:

- (1) Crane—No. 85 or larger, Wiley-Whirley or similar make
- (2) Hoists (Steam)—several, 10x12 or 12x12, 3 drum, double cylinder, without boilers.

#### Miscellaneous

Asphalt.—Town, Geo. T. Herlihy, Sec., Bd. of Mayor and Aldermen, Waveland, Miss.—Wants prices and data on 30,000 gal. asphalt for black top road; cold lay asphalt, Downward process or equal, sufficient to surface 39,000 sq. yd.

Pipe.—J. S. Goepfinger, 923 East Sixth St., Tulsa, Okla.—Wants prices and data on 25 cars of No. 1—4-in. screw pipe, and 10 cars of No. 1—10 in. screw pipe.

Rubber Stamps.—George Tole, 411 Fayette St., Cumberland, Md.—Wants prices and data on rubber stamps.

Geo. T. Robinson, Principal, Daytona Public Schools, Daytona Beach, Fla.—Wants prices and data from manufacturers on:

- (1) Slot Machines
- (2) Smoking Pipes.

Edwin C. Gilson, 640 E. Main St., Lexington, Ky.—Wants following:

- (1) Overhead Doors—for opening approximately 12x11 ft.
- (2) Lumber—approximately 1 car
- (3) Insulating Board—11,000 sq. ft., Celotex or equal.

W. H. Dyer Co. (Contrs. and Industrial Equipment), Lock Box 567, St. Louis, Mo.—Wants prices and data on:

- (1) Cars—6, used, 2 yd., side dump, 36-in. gauge, low loading height
- (2) Pipe—3 in., 2½ in., used, must be A-1
- (3) Rails—3 mi., 20 or 25 lb., relaying with fish plates, spikes and bolts.

#### Building Material and Equipment

C. A. Morrison & Son, Shelby, N. C., want prices on following for \$75,000 post office, Elizabethton, Tenn.:

Flooring—hardwood, linoleum, terrazzo, tile, composition  
Limestone  
Marble  
Roofing—built-up, slate  
Tile—hollow  
Brass and Bronze Work.

Poplar Grove Development Co., 5012 Gwynn Oak Ave., Baltimore, Md., wants prices on following for dwellings:

Electric Refrigerators  
Flooring—hardwood, linoleum  
Lumber  
Millwork  
Electric Fixtures  
Gas Ranges  
Plumbing  
Heating—hot water  
Plastering  
Brick  
Stucco  
Hardware  
Painting  
Plaster Board  
Roofing—asphalt shingle, built-up  
Steel Sash and Trim

B. W. Showalter, Contr., 2820 Hawthorne Ave., Richmond, Va., wants sub-bids on following for \$25,000 tourist hotel, Fredericksburg, Va.:

Electric Wiring and Fixtures.

J. V. & R. T. Burkes, Inc., 1112 Amer. Bk. Bldg., New Orleans, La., estimating on Veterans Administration Home, St. Petersburg, Fla., bids Jan. 5, desire sub-bids and material prices by Jan. 3.



## Bids Asked

**Automobile.**—U. S. Engr. Office, Huntington, W. Va.—Bids Dec. 28 for automobile.

**Boats.**—U. S. Engr. Office, Vicksburg, Miss.—Bids Dec. 29 for constructing 3 31-ft. steel hull motor boats.

**Bridges.**—State of Virginia, 4 bridges. See Construction News—Roads, Streets and Paving.

**Castings, etc.**—U. S. Engr. Office, Huntington, W. Va.—Bids Jan. 4 for cast iron vertical rollers and cast steel sector-bearings.

**Chemicals.**—Constructing Quartermaster, Fort Monroe, Va.—Bids Dec. 29 for 60,000 lb. sulphate of alumina, 1800 lb. liquid chlorine, 16,000 lb. hydrated lime and 1200 lb. sulphate copper.

**Coal.**—Allegheny County Commrs., A. Chas. Stewart, Pres., Cumberland, Md.—Bids Jan. 6 for run-of-mine coal, by ton, delivery bins of court house and jail, and in carload lots on Payne Spring Siding, for insane asylum and county home.

**Dials.**—Pur. Agt., Post Office Dept., Washington, D. C.—Bids Jan. 4 for 60,000 celluloid dials.

**Electrical Supplies.**—U. S. Engr. Office, Huntington, W. Va.—Bids Jan. 5 for electrical supplies for U. S. towboat James Rumsey.

**Dragline.**—Geo. G. Brockett, Chmn., Breward County Commrs., Titusville, Fla.—Bids Jan. 5 for Model 55 Austin dragline, complete with 4½x6¼ Waukesha heavy duty gas engine, 18-in. multi-pedals steel cab—35-ft. boom, ½-yd. Paige Type M dragline bucket.

**Dredge Repairs.**—U. S. Engr. Office, Norfolk, Va.—Bids Jan. 5 for repairing U. S. hopper dredge Chinook.

**Dredging Pump Casing and Spare Parts.**—U. S. Engr. Office, P. O. Box 45, Jacksonville, Fla.—Bids Jan. 5 for dredging pump casing and spare parts.

**Elevator.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids Jan. 5 for elevator plant, U. S. post office, court house, etc., Montgomery, Ala.

**Elevator (Freight).**—Purchasing Agt., Government Office, Washington, D. C.—Bids Jan. 6 for freight elevator.

**Emulsified Asphalt.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 28 for 11,500 gal. emulsified asphalt, delivery Parris Island, S. C.

**Engine Lathe.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Jan. 12 for motor driven engine lathe.

**Fuel Oil.**—U. S. Shipping Bd., Washington, D. C.—Bids Dec. 28 for fuel oil as required for New York, Philadelphia and Baltimore or Norfolk.

**Generator.**—See Machinery and Supplies—Crane.

**Hardware.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 30 for miscellaneous hardware, delivery Quantico, Va.

**Hoisting Engines (Steam).**—U. S. Engr. Office, Huntington, W. Va.—Bids Jan. 7 for steam hoisting engines.

**Kid.**—Supt., St. Elizabeths Hospital, Washington, D. C.—Bids Dec. 29 for 10,000 sq. ft. kidskin lining material.

**Lacquer and Wood Sealer.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 28 for lacquer and wood sealer, delivery Quantico, Va.

**Leather.**—Purchasing Agt., Government Printing Office, Washington, D. C.—Bids Jan. 11 for 1000 ft. best quality maroon cowhide leather and 10 doz. law sheep.

**Lighting Fixtures.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids Jan. 7 for furnishing and installing interior lighting fixtures, U. S. post office and court house, etc., Greensboro, N. C.

**Lumber.**—U. S. Engr. Office, McCall Bldg., Memphis, Tenn.—Bids Dec. 28 for 19,000 ft. white or sugar pine lumber.

**Painting.**—Custodian, U. S. Marine Hospital, St. Louis, Mo.—Bids Dec. 30 for interior painting.

**Pedestal.**—Pur. Agt., Post Office Dept., Washington, D. C.—Bids Jan. 4 for dial scale pedestal.

**Photographic Work.**—U. S. Engr. Office, Huntington, W. Va.—Bids Dec. 28 for photographic work for Marmet and London docks, for period beginning with date of contract and ending June 30, 1932.

**Pig Lead.**—Dist. Commrs., Dist. Bldg., Washington, D. C.—Bids Dec. 29 for 60,000 lb. pig lead.

**Piles.**—U. S. Engr. Office, Kansas City, Mo.—Bids Dec. 28 for 6000 round wood piles.

**Roads.**—State of Virginia, 3 roads. See Construction News—Roads, Streets and Paving.

**Roads.**—State of Maryland, 2 roads. See Roads, Streets and Paving.

**Road.**—State of Kentucky, 2 roads. See Construction News—Roads, Streets and Paving.

**Screening and Weatherstripping.**—Constructing Quartermaster, Fort George G. Meade, Md.—Bids Jan. 6 for insect screens on doors and windows and weatherstripping doors of 14 officers' quarters and 6 non-commissioned officers' quarters.

**Skylights.**—Treasury Dept., Supvg. Archt., Washington, D. C.—Bids Jan. 7 for replacing skylights, U. S. post office and court house, New Orleans, La.

**Switchboard Keys, etc.**—Signal Supply Officer, 1819 E. Pershing Rd., Chicago, Ill.—Bids Dec. 29 for 22 switchboard keys and 2500 switchboard lamps.

**Tapestry.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 28 for 300 yd. tapestry, delivered Quantico, Va.

**Upholstery Supplies.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 30 for upholstery supplies, delivery Quantico, Va.

**Water Coolers.**—Custodian, U. S. Post Office, Pensacola, Fla.—Bids Jan. 6 for 3 automatic electric water coolers.

**White Lead.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 28 for 25,000 lb. white lead, delivery Parris Island, S. C.

**Wire Rope.**—U. S. Engr. Office, Vicksburg, Miss.—Bids Dec. 28 for 125,000 lin. ft. wire rope.

**Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Jan. 5 for:**  
Power Press—double crank, motor driven  
Power Hammer—motor driven  
Grinding Machine (Universal)—motor driven

Engine Lathe—geared head, motor driven  
Hack Saw—motor driven  
Engine Lathes—motor driven  
Planer—single surfacer, motor driven  
Engine Lathes—selective head, motor driven

**Director of Purchase and Sales, Dept. of Agriculture, Washington, D. C.—Bids Dec. 29 for:**

Sifter—5-screen, motor driven, for fertilizer materials, for Rosslyn, Va.  
Analytical Balance—for Washington  
Bags (Muslin)—23,000, for Washington  
Autoclave—for Washington  
Laboratory Furniture—set up at Beltsville, Md.

**Gen. Pur. Officer, Panama Canal, Washington, D. C.—Bids Dec. 30 for following, Sch. 2710:**

Corrugated roofing material, ridge roll, 1000 lb. roofing cement, rein. steel bars, wrought iron or steel pipe, galv. malleable iron caps, malleable iron tees, outlet box covers, barber chair, malted milk dispensers, glass containers, lead pipe, rail clips, twist drills, aluminum folding rules, rubber strips, etc.

**Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until dates indicated for:**

Neon Tubes—candelabra base, for Washington, Jan. 5  
Rubber Hose—wire reinforced, Jan. 5 instead of Dec. 15

Quartz Crystals—2000 lb., for Washington, Jan. 5

Core Oven—electrically heated, Jan. 5  
Radio Receivers—f. o. b. works, Jan. 5  
Milling Machine—motor driven, for Portsmouth, Jan. 5

Template Paper—4 rolls for Portsmouth; 100 rolls for Norfolk, Jan. 5  
Pipe—5000 ft., cast iron, for east and west yards, Jan. 12

Calipers, Dividers, Gauges, Planes and Squares—for eastern and western yards, Jan. 12

Leather, Belting, Lacing, etc.—for eastern and western yards, Jan. 12

Fire Extinguishers—280, portable, for Hampton Roads, Jan. 12

Sprayers—700, pest exterminator liquid, for Hampton Roads, Jan. 12

Wood Boring Bits, Chisels, Knives, Scrapers and Scrubbers—for eastern and western yards, Jan. 12

Hacksaw Frames—for eastern, Jan. 12  
Clamps and Punches—for eastern and western yards, Jan. 12

Electric Motors—10 d. c., for Annapolis, Jan. 5

Turkish Towelling—9600 lin. yd., for Hampton Roads, Jan. 12  
Slab Zinc—100,000 lb., for Washington, Jan. 5

Engine Lathe—motor driven, Jan. 5  
Grinder (Universal)—motor driven, Jan. 5  
Hacksaw Machines—motor driven, Jan. 5  
Milling Machine (Universal)—motor driven, Jan. 5

**Gen. Pur. Officer, Panama Canal, Washington, D. C.—Bids Dec. 31 for:**  
Structural steel, springs, castings and windows, for 2 ferry approaches.

**Gen. Pur. Officer, Panama Canal, Washington, D. C.—Bids Jan. 4 for:**

Struc. steel, sheet and plate steel, steel bars, iron or steel pipe, glass, magnet wire, welding rods, twist drills, steel drills (for brick, stone and cone.), machine bits, files, coil chain, carpenters' clamps, chisels, anvils, hacksaw frames, manure forks, pipe cutter wheels, etc.

**Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Jan. 12 for:**  
Ratchet Braces and Drills (Breast and Hollow Handle)

Bits (Wood Boring), Chisels, Knives, Scrapers and Scrubbers

Calipers, Dividers, Gauges, Planes and Squares

Hacksaw Frames

Clamps and Punches.

**U. S. Engr. Office, Huntington, W. Va.—Bids Jan. 11 for:**

Throttle Valve  
Boiler Tube  
Shellac  
Chain  
Files

Steam Hose

Boiler (Hot Water)—vertical, galv.

Barrels (Steel)—heavy, 55 gal.

Wire Nails

Door Butts

Steam Trap

Machine Bolts

Gaskets

Drill Bits

Water Gage

Grinding Wheels

Warehouse Truck, etc.

## Heating, Ventilating and Refrigeration Show

Heating, ventilating and air conditioning developments will be discussed at the second international heating and ventilating exposition, January 25-29, at Cleveland, in conjunction with the annual meetings of the American Society of Heating and Ventilating Engineers and the American Society of Refrigerating Engineers. On two days, the two societies will hold joint meetings.

Among the equipment and appliances to be shown will be: Unit boilers; new types of automatic boiler water feeders; threadless fittings for copper pipe, in which the joints are made by solder through the law of capillary action; heaters which fit below floor-line in houses that have no basements; new methods of converting coal-burning heaters into gas-fired installations; gas producers and boilers in single units, providing extra gas for cooking and water heating, and burning coke or anthracite coal; relative humidity recorders and new automatic humidity controls.

New building insulation materials combining, in one type, insulation, paper and metal lath; automatic rotary oil burners, copper cast radiators, finned heating risers, master units for zone control with program dials for automatic control of week-end temperatures, and combination float and thermostatic steam traps for unit heaters and for high pressures, also will be presented.

At Waco, Texas, 230 shop men of the M-K-T Lines will be put back to work.



## INDUSTRIAL NEWS

### Heads Fairbanks-Morse Company

Robert H. Morse, formerly vice chairman of the board of directors of Fairbanks, Morse & Co., Chicago, has been elected president and general manager of the company, succeeding W. S. Hovey, resigned. Mr. Morse, a son of C. H. Morse, founder of the firm, entered the service of the company in 1895 as an apprentice at the Beloit factory, and has been with the firm continuously since that time, except for a period of military service, when he served as Lieutenant-Colonel in the Signal Corps. He has been employed in various positions as salesman, department manager, branch house manager, sales manager, president of the manufacturing division, vice president in charge of purchases, first vice president and vice chairman of the board. He is also a director of E. & T. Fairbanks & Co., the Canadian-Fairbanks-Morse Co., Ltd., E. & T. Fairbanks Co., Ltd., and Central Republic Bank and Trust Company.

### Would Facilitate Valve Replacement

Center-to-face dimensions for ferrous flanged valves recently developed and approved by the Manufacturers Standardization Society of the Valve and Fittings Industry as standard practice have been tentatively recommended for adoption as an American Standard by Subcommittee No. 5 of the Sectional Committee on the Standardization of Pipe Flanges and Fittings. The proposal sets forth center-to-face dimensions of cast iron and steel flanged valves of the wedge gate, globe and angle types, several pressures, and over a considerable range of sizes. When adopted, this standard should be of value to industry, it is declared, as facilitating replacement of valves in existing pipe systems. Detailed information regarding the proposal may be obtained from C. B. LePage, assistant secretary, the American Society of Mechanical Engineers, 29 West 39th street, New York.

### Armco to Exhibit New Products

Multi-Plate Pipe, a recent development in drainage structures, Armco metal cribbing and Armco paved inverted pipe will be important features of the exhibit of the Armco Culvert Manufacturers Association, Middletown, Ohio, at the 1932 Road Show, to be held in Detroit, January 11 to 15, inclusive. This Armco display, featuring materials of interest to road builders, will be located in booth 201. The following Armco representatives will be in attendance: S. R. Ives, vice president and general manager; George E. Shafer, engineer of tests; M. C. Noble and Eugene Keller, regional managers, and W. H. Spindler and R. E. Pearson, publicity division.

### Dual-Lok Joint Pipe

The Central Foundry Company, New York, has developed a new Universal Dual-Lok Joint Pipe that is gas-tight under high pressures, according to recent announcement by the company. It is described as retaining all of the characteristics of the Universal Pipe—tight, flexible, machined iron-to-iron joint; and, moreover, is reinforced by a tight, flexible, non-deteriorating gasket that provides a double safety factor against leakage. While especially designed for high pressure work, its producers say it may also be economically used for low and intermediate pressures.

### Kinnear Names Baltimore Manager

The Kinnear Manufacturing Company, Columbus, Ohio, manufacturers of Kinnear steel rolling doors and shutters, have appointed Wm. H. Moreton, 1305 Fidelity Building, Baltimore, district manager for Baltimore and vicinity.

### Page Steel and Wire Distributors

The Page Steel and Wire Company, Atlanta, Ga., has entered into contracts with two new firms for the distribution of its products—with Gregg Brothers, Wilmington, to serve as distributors in the eastern half of North Carolina, and with Bailey-Lebby Company, Charleston, to cover the eastern half of South Carolina.

### Allen-Bradley Oklahoma Agents

The Allen-Bradley Company, Milwaukee, Wis., manufacturers of controllers for a.c. and d.c. motors for the petroleum and other industries, announce the appointment of the Petroleum Electric Company, Tulsa, as agents in the Oklahoma territory. Allen-Bradley equipment will be handled from the main offices of the Petroleum Electric Company at 522 Commercial Building, Tulsa, and from their branch office at 531 W. Main street, Oklahoma City.

### Acquires Cincinnati Frog and Switch

The Weir Kilby Corporation, Cincinnati, Ohio, and Birmingham, Ala., manufacturers of railway, mine and industrial track work, have acquired the Cincinnati Frog & Switch Co., of Cincinnati. The business of the latter will be carried on as in the past, it is announced. O. DeG. Vanderbilt, Jr., president of the Weir Kilby Corporation, has been elected president of the Cincinnati Frog & Switch Co., following the resignation of Charles H. Partington.

### "Caterpillar" Promotes Barnes

J. Newton Barnes, native of Mississippi, was recently promoted by the Caterpillar Tractor Company, Peoria, Ill., from district representative with headquarters at Atlanta, Ga., to assistant sales manager with headquarters at Peoria. With years of sales experience in Southern territory, Mr. Barnes, in his new position, will have under his jurisdiction the states of Florida, Georgia, Tennessee, Mississippi, Arkansas, Louisiana, Texas, Oklahoma, New Mexico and parts of Missouri and Kansas.

### Joins American Cyanamid Company

Warner D. Huntington, for more than 16 years vice president of the Davison Chemical Company, Baltimore, has resigned, effective December 31, to become director of fertilizer sales of the American Cyanamid Company, New York. Mr. Huntington has been associated with the fertilizer industry for many years and has been active in the work of the National Fertilizer Association, serving as chairman of its Soil Improvement Committee for 14 years. He was vice president of the association in 1916 and 1917 and president in 1918 and 1919. In June of the current year he was elected chairman of the executive committee of the Manufacturing Chemists Association.

### American Standards Association

At the recent annual meeting of the American Standards Association in New York, Bancroft Gherardi, vice president of the American Telephone and Telegraph Company, was re-elected president of the association. Other officers, also re-elected, are: Cloyd M. Chapman, consulting engineer, United Engineers and Constructors, Inc., New York, vice president and chairman of the ASA Standards Council, and John C. Parker, Brooklyn Edison Company, Brooklyn, N. Y., vice chairman of the Standards Council. Both Mr. Gherardi and Mr. Chapman reported developments in national and international standardization work, reviewing the progress of industrial standardization in 1931. National committees of technical experts, working under the auspices of the association, have completed 27 new national standards since January 1, 1931, affecting practically every important industry. Mr. Gherardi also reported the beginning of 13 new national standardization projects affecting mechanical, electrical, mining, iron and steel and other industries.

### New Industrial Sales Staff

The Caterpillar Tractor Co., Peoria, Ill., has organized a Special Sales Division under supervision of W. H. Gardner; it consists of a group of Sales Engineers to contact railroads, public utilities and equipment manufacturers. This division supplements the work of the dealer organization by reaching headquarters offices of the larger buyers. The following engineers compose the staff, with additions contemplated from time to time: W. J. Dukes, with a technical training in gasoline and Diesel engines and their application; G. W. A. Bell, Jr., with considerable experience in road construction and engineering; C. D. Turley, civil engineer experienced in highway, drainage, railroad and bridge engineering and construction, etc., joined Caterpillar Tractor Co. in October, 1931, as manager of sales to railroads for the Midwest; J. H. Howell, served with C. L. Best Tractor Co., predecessor of present Caterpillar Tractor Company; and Harold G. Tufty, electrical engineer specialist in electrical transmission, with a well-rounded knowledge of the complete utility field.

### Merger of Instrument Lines

The Pyrometer Division of Wilson-Maeulen Company, Inc., has merged with the Foxboro Company, Foxboro, Mass., following 25 years of close cooperation between the two companies. The merger was made in the interest of better service, as offering complete instrumentation to industry. The entire personnel of the Wilson-Maeulen Pyrometer Division will be merged with that of the Foxboro Company, combining the knowledge and experience of the two organizations. The former specializes in the manufacture of electric indicating, recording and controlling pyrometers and electric resistance thermometers for temperatures up to 3600 degrees Fahrenheit. The combination enables the Foxboro Company to offer a complete range of instruments of standardized quality. The Rockwell Hardness Tester, manufactured by the Wilson-Maeulen Company, will hereafter be built and sold by the Wilson Mechanical Instrument Company which succeeds the Mechanical Instrument Division of Wilson-Maeulen Company, Inc., continuing in the same factory and offices at 383 Concord avenue, New York. Wilson-Maeulen pyrometers and controllers will be built in well equipped factories at Foxboro, and communications regarding these products should be addressed to Wilson-Maeulen Pyrometer Division, the Foxboro Company.



### Doors and Interior Trim for the Department of Commerce Building

A feature of the \$17,000,000 Department of Commerce Building, fast nearing completion in Washington, is the use of metal doors and trim made by the Dahlstrom Metallic Door Company, of Jamestown, N. Y. In fulfilling this contract placed by the general contractors, Consolidated Engineering Company of Baltimore, to meet the plans and specifications which called for hollow metal doors and interior trim, the Dahlstrom Company used close to 2,225,000 pounds of steel and furnished work for several hundred skilled artisans over a period of more than a year. The finish of the metal doors and trim is soft grey stipple, developed under the personal direction of Col. Ayers of the firm of York & Sawyer, architects for the building.

The manufacturers, in commenting on the selection of hollow metal doors and interior trim throughout the building, point out that the building is thus assured of fireproof qualities that are as near to 100 per cent as it is possible to obtain, the doors and frames being capable of withstanding, for a period as long as an hour, temperatures of upwards of 1700 degrees F., thereby affording protection to priceless records as well as safety to the personnel of the Department. Other qualities possessed by this type of metal doors and trim mentioned by the makers are: They do not warp nor shrink due to changes in climatic conditions; joints do not open; there is no creepage as between panels, stiles and rails; the finish, consisting of at least six or seven coats baked on, needs no frequent renewals; the durability factor insures low cost of maintenance.

By the use of metal doors and trim in the Department of Commerce building the Dahlstrom Company points out that considerable time was conserved because, as soon as the doors were hung, as far as that part of the work was concerned the building was ready for occupancy.

### \$100,000 Mill Addition

Anniston, Ala.—The Avalon Building Company, local organization, is completing plans for financing a \$100,000 addition to the Utica Knitting Mills here which will mean an increase of 50 per cent in the company's payroll. Duke & Stickney, Anniston, are said to be low bidders for construction. The Avalon company financed the first unit of the Utica mills in 1926 and a second unit in 1929. Men's ribbed underwear and union suits are the products.

### Santa Claus Turns to Cotton

Under the caption, "Christmas Cotton," the Anderson (S. C.) Daily Mail and the Anderson Independent publish a full page advertisement of "colorful Christmas gifts for the home" and other articles made of that fabric. The space was donated by Wilton E. Hall, publisher of the two papers, and warm appreciation for this cooperation is expressed by Mrs. George F. Bigby, chairman of the Southeastern Cotton Festival, in a note written on cottoncloth stationery.

### Wearing Apparel and Bedding for the Needy

The Salvation Army of New York City, through Mrs. Jesse Isidor Straus, 720 Park Avenue, chairman of the Women's Committee for Special Gifts, is asking manufacturers of wearing apparel and bedding to donate unsalable goods for the benefit of the needy unemployed. Mrs. Straus believes there are many manufacturers of blankets, sheets, towels, underwear, clothing, shoes, hosiery, gloves, etc., who have samples or imperfect supplies, and therefore unsal-

able, which could be contributed to the Salvation Army or other organizations to aid in relieving the distressed. The New York donations will be received at the Salvation Army office, 120 W. 14th street.

### Site for \$3,500,000 Courthouse

Kansas City, Mo.—The block south of Twelfth street, between Oak and Locust streets, has been selected by the Jackson County Court, Harry S. Truman, presiding judge, as a site for the new county courthouse to be erected here. The purchase of the property will entail an outlay of \$1,010,000, leaving approximately \$3,500,000 of bond funds available for the construction and furnishing of the building. This project is embraced in the city's Ten-Year plan, for which more than \$30,000,000 of bonds were voted, including \$4,500,000 for a new courthouse. E. F. Neild, Shreveport, La., has been retained as consulting architect and will work in conjunction with a board of Kansas City architects who will have direct supervision of plans and construction. This board is expected to be selected by December 28. The County Court opens bids January 11 at Independence, Mo., for the purchase of \$1,200,000 courthouse bonds.

## Electric Output

The monthly figures shown below are based on reports to the National Electric Light Association covering 92 per cent of the electric light and power industry, and the weekly figures are based on 70 per cent.

Production of electricity by the industry for the week ended December 12, was 1,671,717,000 kilowatt-hours. The Atlantic seaboard shows a decrease of

1.3 per cent from the corresponding week last year and New England, taken alone, shows a decrease of 1.5 per cent. The central industrial region, outlined by Buffalo, Pittsburgh, Cincinnati, St. Louis and Milwaukee, registers as a whole a decrease of 7.5 per cent, while the Chicago district alone shows a decrease of 5.2 per cent. The Pacific Coast shows a decline of 3.1 per cent.

*Output in kilowatt-hours of light and power companies for recent weeks and by calendar months*

Week Ending	1930		1929		Percentage Change 1931 from 1930
	1930	1929	1930	1929	
November 7	1,628,147,000	1,728,210,000	1,798,164,000	1,697,000,000	-5.8
14	1,623,151,000	1,712,727,000	1,793,584,000	1,696,000,000	-5.2
21	1,655,051,000	1,721,501,000	1,818,169,000	1,701,000,000	-3.9
28	1,599,900,000	1,671,787,000	1,718,002,000	1,619,000,000	-4.3
December 5	1,671,466,000	1,746,934,000	1,806,225,000	1,706,000,000	-4.3
12	1,671,717,000	1,748,109,000	1,840,863,000	1,716,000,000	-4.4
By Months					
January	7,439,888,000	8,021,749,000	7,585,334,000	6,637,064,000	-7.3
February	7,005,564,000	7,066,788,000	6,850,855,000	6,289,337,000	-5.1
March	7,381,004,000	7,580,335,000	7,380,263,000	6,632,542,000	-2.6
April	7,193,691,000	7,416,191,000	7,285,359,000	6,256,581,000	-3.0
May	7,183,341,000	7,494,807,000	7,486,635,000	6,552,575,000	-4.2
June	7,057,029,000	7,239,697,000	7,220,279,000	6,454,379,000	-2.5
July	7,222,869,000	7,363,730,000	7,484,727,000	6,570,110,000	-7.9
August	7,144,840,000	7,391,196,000	7,773,878,000	6,944,976,000	-3.3
September	7,042,783,000	7,337,106,000	7,523,395,000	6,724,148,000	-4.0
October*	7,256,279,000	7,718,787,000	8,133,485,000	7,360,489,000	-6.0

\*Revised.



## What Kind of Audit?

AUDITS vary in quality and scope. The *Quality* depends upon the experience, ability and application of the auditor; the *Scope* is a matter of your instruction.

Of course, *Every Audit should be a Detailed Audit.* This is an expert and independent study in *detail* of the items represented in mass by balance sheet figures. It discloses the many important facts underlying the figures; verifies; clarifies. It brings to light avoidable leaks and wastes; finds the flaws in accounting, in credit and collection methods; points to possibilities for greater profits, and is free from qualified statements of the balance sheet audit.

*The Balance Sheet Audit*, in spite of obvious limitations, when properly made is more than a mere building up of statements from book figures without careful analysis and substantiation.

The Balance Sheet Audit can be ordered with a specification calling for a partial Detailed Audit covering a period sufficiently long to give at least a cross section of the business and a picture of actual conditions.

## ERNST & ERNST

ACCOUNTANTS AND AUDITORS  
SYSTEM SERVICE

AKRON  
ATLANTA  
BALTIMORE  
BIRMINGHAM  
BOSTON  
BUFFALO  
CANTON  
CHICAGO  
CINCINNATI  
CLEVELAND  
COLUMBUS

DALLAS  
DAVENPORT  
DAYTON  
DENVER  
DETROIT  
ERIE  
FORT WAYNE  
FORT WORTH  
GRAND RAPIDS  
HARTFORD  
HUNTINGTON,  
W. VA.

HOUSTON  
INDIANAPOLIS  
JACKSON, MISS.  
KALAMAZOO  
KANSAS CITY  
LOS ANGELES  
LOUISVILLE  
MEMPHIS  
MIAMI  
MILWAUKEE  
MINNEAPOLIS

NEW ORLEANS  
NEW YORK  
OMAHA  
PHILADELPHIA  
PITTSBURGH  
PORTLAND, ME.  
PROVIDENCE  
READING  
RICHMOND  
ROCHESTER  
ST. LOUIS

ST. PAUL  
SAN ANTONIO  
SAN FRANCISCO  
SEATTLE  
TAMPA  
TOLEDO  
TULSA  
WASHINGTON  
WHEELING  
WINSTON-SALEM  
YOUNGSTOWN



### The Paper and Pulp Industry

According to identical mill reports to the Statistical Department of the American Paper and Pulp Association, New York, from members and cooperating organizations, the daily average of total paper production in October decreased 5 per cent under September and 9 per cent under October, 1930. The daily average wood pulp production in October was 3 per cent below September, 1931, and 10 per cent below October, 1930.

Compared with October a year ago, the daily average production registered a decrease in the following grades: Newsprint, uncoated book, paperboard, wrapping, writing, tissue, hanging and building papers. Compared with September, 1931, the following percentage decreases were registered in the daily average production: Newsprint, 1.5 per cent; uncoated book, 4.8 per cent; paperboard, 5.9 per cent; bag, 4.4 per cent; wrapping, 5.8 per cent; writing, 2.7 per cent; tissue, 12.4 per cent, and building, 21.1 per cent.

The ten months' cumulative total of production of paper was 9.5 per cent below the corresponding period in 1930 while shipments were 8.7 per cent smaller than a year ago. Newsprint, wrapping and bag papers have shown improvement while uncoated book, paperboard and writing papers showed practically no change in production at the end of the ten-month period as compared with the end of the nine-month period.

The ten months' cumulative total of wood pulp production for this year was reported as 15.6 per cent below the level of the same period in 1930.

Total shipments of wood pulp to the outside market were 29.7 per cent below the level of the ten months' total of 1930. Bleached sulphite, mitscherlich sulphite and kraft pulp shipments to the open market were greater than in the first ten months of 1930.

Total wood pulp inventories showed a decrease and at the end of October were 10.1 per cent below the level of October, 1930. All grades, excepting news grade and easy bleaching pulp, showed inventories below the level of October, 1930.

### \$1,250,000 Hospital Plans

Preliminary drawings for a new \$1,250,000 general hospital building to be erected at the Baltimore City Hospitals have been approved by the Board of Supervisors of City Charities, Baltimore, and working drawings and specifications are expected to be ready early in January. This building, which will be a 6-story and basement structure of approximately 2,000,000 cubic feet, will be one unit of several provided in a \$2,500,000 building program for the institution.

Palmer & Lamdin are the architects; Van Rensselaer Saxe, structural engineer, and Reeder, Elizer & Akers, mechanical engineers, all of Baltimore.

### \$490,000 Bids on Incinerators

Washington, D. C.—Low bids totaling \$490,684 to construct two incinerators here for the District Commissioners were submitted by the Rust Engineering Co., Pittsburgh, Pa., and the North-Eastern Construction Co., Baltimore. The former submitted an estimate of \$321,416 for the construction of a plant on O street, and the latter an estimate of \$169,268 for a plant in Georgetown.

### \$22,500,000 Recommended for Dams

Chattanooga, Tenn.—The construction of low dams to provide 9-foot navigation in the Tennessee River from the head of Colbert Shoals to the Hales Bar lock and dam below Chattanooga, has been approved by the War Department, Washington. Recommendations of the Department estimate the cost at \$22,500,000 or \$17,500,000 more than the present authorized appropriation.

### Low Bids on \$840,000 Postoffice

Lynchburg, Va.—Low bid to erect a new \$848,000 post office building here was submitted by John Lagura, Gary, Ind., at \$331,500, using limestone and granite exterior. Ralph Sollitt & Sons Construction Company, South Bend, Ind., submitted low bid at \$353,800, using sandstone construction. Low bid to install elevators was submitted by the Haughton Elevator & Machine Co., Washington, D. C., at \$23,878. Plans for the building were prepared in the office of Jas. A. Wetmore, Acting Supervising Architect, Treasury Department.

### 7,156,000 Barrels of Cement Shipped in November

According to the Bureau of Mines, the ratio of operations to capacity of American Portland cement mills for the past 12 months was 44.4 per cent. The ratio for the 12 months ending November 30, 1930, was 62.6 per cent and for the 12 months ending November 30, 1929, it was 66.8 per cent.

During November, 8,161,000 barrels of cement were produced, 7,156,000 barrels were shipped, and stocks on hand at the end of the month were 22,223,000. Production was 26.5 per cent less and shipments were 18.5 per cent less than in November, 1930. Stocks at the mills were 3.6 per cent less than a year ago.

### Asphalt Paving Technologists to Meet

The annual meeting of the Association of Asphalt Paving Technologists will be held in connection with the Annual Road Show and Convention of the American Road Builders' Association in Detroit next month. Two sessions will be held at the Municipal Airport Building on January 14, one in the morning and the other in the afternoon. A business session and meeting of the board of directors will be held January 13 at the Book Cadillac Hotel. Charles A. Mullen of Montreal, Quebec, president of the Association of Asphalt Paving Technologists, will preside during the morning sessions, opening the meeting with his annual address. Henry L. Howe of Rochester, N. Y., first vice-president of the association, will preside in the afternoon. The official program for both sessions is as follows:

#### Morning Session—9.30 A. M.

Address by Charles A. Mullen, President, The Association of Paving Technologists, Progress Report of the Committee on Present Practice in Asphalt Paving, by Roger L. Morrison, Chairman of the Committee, Ann Arbor, Michigan.

Progress Report on Investigation into Causes of Cracking in Sheet Asphalt, by F. J. Leduc, Consulting Engineer, Montreal, Canada.

Paper: "Development of Rotary Mixers for Hot and Cold Asphalt Paving Mixtures," by John W. Davitt, Consulting Engineer, Jersey City, New Jersey.

Paper: "A Discussion Concerning Adhesion Tension in Asphalt Pavements, Its Significance, and Methods Applicable in its Determination," by Victor Nicholson, Engineering Chemist, Bureau of Streets, Chicago, Illinois.

Paper: "A New Method of Mixing and Placing Modern Pavements," by George W. Craig, Consulting Engineer, Chicago, Illinois.

#### Afternoon Session—2.00 P. M.

Paper: "Some of the Fundamental Physical Characteristics of Mineral Fillers Intended for Asphalt Paving Mixtures," by J. S. Miller, Director, Technical Bureau, and R. N. Traxler, Research Chemist, Technical Bureau, The Barber Asphalt Company, Maurer, New Jersey.

Progress Report on Cooperative Simplification of Tests and Specifications of Liquid Asphaltic Products, by J. T. Pauls, Senior Highway Engineer, United States Bureau of Public Roads, Washington, D. C.

Paper: "Relative Significance of Origin and Process of Manufacturing as Affecting the Characteristics of Asphalt," by C. M. Baskin, Asphalt Technologist, Imperial Oil Refineries Limited, Montreal, Canada.

Paper: "Oiling Earth Roads and Subgrades in Missouri," by F. V. Reagel, Engineer of Materials, Missouri State Highway Department, Jefferson City, Missouri.

Paper: "Researches on Stability of Cold Bituminous Mixtures," by C. R. Stokes, Materials Engineer, Wisconsin Highway Commission, Madison, Wisconsin.

Paper: "Adaptation of the Stability Test to Include Coarse Aggregate Asphalt Paving Mixtures," by Prevost Hubbard, Chemical Engineer, and F. C. Field, Chemist, The Asphalt Institute, New York City.

The name of the Continental Construction Co., Kansas City, Mo., has been changed to the Natural Gas Pipe Line Company of America, and the capital stock increased from 500,000 shares to 1,500,000 shares.



# TRAVELERS SOUTH

*Due for Pleasant Surprises*

THIS SEASON'S visitors from the north will be agreeably surprised to find hundreds of miles of newly completed highways that will add even greater comfort and enjoyment to their journeys into the deep South.

The Highway Board of Georgia alone reports no less than 575 miles of pavement laid during the year ending September 30th and travelers on their way South will find a thousand miles of new roads.

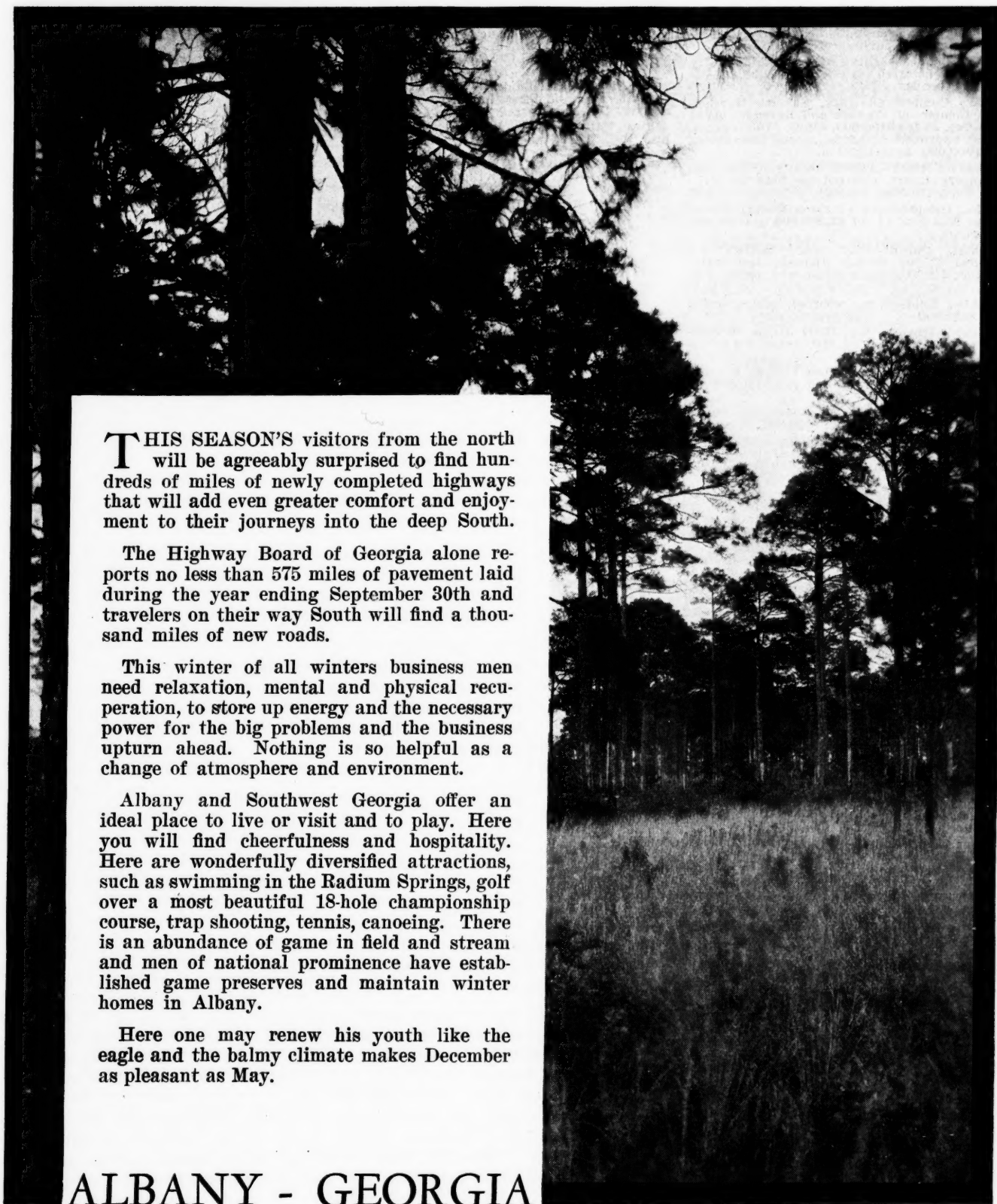
This winter of all winters business men need relaxation, mental and physical recuperation, to store up energy and the necessary power for the big problems and the business upturn ahead. Nothing is so helpful as a change of atmosphere and environment.

Albany and Southwest Georgia offer an ideal place to live or visit and to play. Here you will find cheerfulness and hospitality. Here are wonderfully diversified attractions, such as swimming in the Radium Springs, golf over a most beautiful 18-hole championship course, trap shooting, tennis, canoeing. There is an abundance of game in field and stream and men of national prominence have established game preserves and maintain winter homes in Albany.

Here one may renew his youth like the eagle and the balmy climate makes December as pleasant as May.

ALBANY - GEORGIA

REYNOLDS BROTHERS LUMBER CO.





# FINANCIAL NEWS

## Bond Issues Proposed

Ala., Birmingham—City Comsn. rejected bids for \$1,130,000, not to exceed 5% drainage bonds. 12-3

Fla., Tampa—Hillsborough County votes April 12, 1932, on approx. \$6,000,000 bonds; issue county wide bonds to take up all special road and bridge district bonds outstanding and issue \$2,639,750 to take up 67% of outstanding paving certificates.

Ky., Paducah—City, W. V. Eaton, City Solicitor, deferred sale of \$350,000, 5½% funding bonds. 11-26

Md., Cumberland—City, Samuel Wertheimer, Commr. of Finance and Revenue, opens bids Dec. 28 for \$400,000, 4½%, \$1000 denom. water improvement bonds, second installment of \$900,000 authorization.

Miss., Corinth—Alcorn County, Office Clk., Chancery Court, received no bids for \$47,000, 5½% funding bonds. 12-3

Mo., Independence—Jackson County Treas. opens bids Jan. 11 for \$1,200,000 court house bonds.

Okla., Durant—City voted \$50,000, 5% bonds; \$37,500 sewage disposal and incinerator; \$12,500, water pump and power station. 11-26

Okla., Enid—City, reported, plans voting on \$250,000.

Tenn., Athens—City, H. D. Urisla, Recorder, will not issue \$200,000 water bonds authorized by Legislature. 7-30

Tenn., Covington—Tipton County has bill before Legislature providing for \$100,000 refunding bonds.

Tenn., Covington—City has bill before Legislature providing for \$26,000 refunding bonds.

Tenn., Jellico—City, E. S. Miller, Chmn., Light Committee, votes Jan. 2 on \$150,000 light and power plant bonds.

Tenn., Memphis—Shelby County Court, W. S. McCormick, Chmn., opens bids Dec. 28 for \$300,000, 5%, \$1000 school revenue notes.

Tenn., Memphis—City, D. C. Miller, Clk., opens bids Jan. 5 for \$270,000, not to exceed 6%, \$1000 denom. coupon or registered street improvement assessment bonds. 12-10

Tenn., Tazewell—Claborn County received no bids for \$100,000 court house and jail bonds. 11-12

Tex., El Paso—El Paso County Commrs. Court arranging for sale of \$295,000 road bonds; County may buy \$175,000 from sinking fund, leaving \$120,000 to be sold in open market. 12-10

Tex., Edinburg—Hidalgo County Road Dist. No. 1 considering selling \$78,000 road bonds, remainder of \$4,000,000 issue.

Tex., Fort Worth—City Council offer \$600,000 street improvement bonds for sale in spring.

Tex., Gonzales—Gonzales County Commrs. Court may call election on road bonds.

Tex., Kerrville—Kerr County, Chas. Real, County Judge, probably offer \$100,000 road bonds in 1932, part of \$450,000 issue.

Tex., Port Arthur—City, reported, may issue \$500,000 sewer bonds.

Tex., Gainesville—Hall County, J. D. Underwood, Supt., Bd. of Education, votes Dec. 29 on \$10,000 River Bend Consolidated School Dist. bonds.

Tex., Raymondville—City issue \$128,000 light system revenue bonds.

Tex., San Antonio—City School Bd., L. D. Gilmore, Chmn., Finance Comm., opens bids Jan. 11 on \$300,000 of \$1,750,000 school bonds.

## Bond Issues Sold

Ala., Scottsboro—City recently sold \$15,000, 6% school bonds to Dixie Mer Co., Chattanooga, Tenn.

La., Sulphur—Town, A. H. Lafarge, Mayor, sold \$22,000, paving bonds to Calcasieu National Bank, as 6s, at par. 11-12

N. C., Durham—City sold \$150,000 tax anticipation notes jointly to Fidelity Bank and First National Bank, both Durham, as 4½s, at par.

Tex., Hempstead—Waller County sold \$21,000, 6% road and bridge funding bonds to Citizens State Bank, Hempstead.

## New Financial Corporations

Md., Baltimore—Monumental Banking Corp., 407 American Bldg., chartered; William T. Larkin, 7 N. Carey St.

Okla., Oklahoma City—Carrote Finance Corp., capital \$25,000, chartered; L. E. Haskell.

Okla., Tipton—Farmers Finance Co., Inc., capital \$25,000, chartered; T. Webb, O. L. Clark.

Citizens' State Bank, new institution, acquired People's Bank, A. F. Parks, Pres., and Bank of Calhoun, C. L. Wiley, Pres., both Calhoun, Mo.

Del Rio National Bank, B. E. Wilson, Pres., Del Rio, Tex., and First National Bank, E. E. Sawyer, Del Rio, merged.

First National Bank, Polk Tarwater, Pres., Rockwood, Tenn., and Rockwood Natl. Bank, N. Barnett, Pres., Rockwood, merged as First National Bank of Rockwood, with Polk Tarwater, Pres., and William Ensminger, Cashier.

Planters' Bank, F. B. Bell, Pres., Machipongo, Va., and Bank of Northampton, J. E. Nottingham, Pres., Nassawadox, Va., merged.

Victory Building & Loan Association, Memphis, Tenn., increasing capital, \$10,000 to \$100,000.

## \$846,000,000 of New Life Insurance Written in November

November showed the best record this year in new life insurance, compared with last year's monthly figures. The total in November was only 1.7 per cent less than in the same month of 1930. November was likewise the best month, relatively, for industrial and ordinary insurance. The largest percentage increase in industrial insurance was made in November, showing a gain of 10.5 per cent over the same month last year. Ordinary insurance showed a decrease of only nine-tenths of one per cent from the amount for November, a year ago. The cumulative total of new life insurance production for the first eleven months of 1931 was 12.2 per cent less than the amount for the corresponding period in the previous year.

These facts have been presented by the Association of Life Insurance Presidents to the United States Department of Commerce for official use. The report aggregates the new business records—exclusive of revivals, increases and dividend additions—of 44 member companies which have 82 per cent of the total volume of life insurance outstanding in all United States legal reserve life insurance companies.

For November, the total new business of all classes written by the 44 companies was \$846,617,000 against \$861,047,000 during November of 1930, a decrease of 1.7 per cent. New ordinary insurance amounted to \$587,678,000 against \$593,270,000, a decrease of 9/10 of one per cent. Industrial insurance amounted to \$230,344,000 against \$208,482,000, an increase of 10.5 per cent. Group insurance was \$28,595,000 against \$59,295,000, a decrease of 51.8 per cent.

For the first eleven months, the total

new business of these companies was \$9,967,817,000 this year against \$11,348,804,000 last year, a decrease of 12.2 per cent. New ordinary insurance amounted to \$6,737,466,000 against \$7,764,878,000, a decrease of 13.2 per cent. Industrial insurance amounted to \$2,535,392,000 against \$2,622,327,000, a decrease of 3.3 per cent. Group insurance amounted to \$694,959,000 against \$961,599,000, a decrease of 27.7 per cent.

## Better Homes Show

Randolph N. Dame, chairman of a committee arranging for the eleventh annual Better Homes and Building Exposition of the Real Estate Board of Baltimore, to be held at the Fifth Regiment Armory, beginning April 2, announces that C. O. Parsons, Waterbury, Conn., will succeed James D. Hedrick as managing director of the Exposition. Mr. Parsons will have an office at the headquarters of the Board, 7 St. Paul street, after January 1.

## Intensive Sales Plan Successful

A 10-day intensive sales plan recently carried out by the International Fire Equipment Corporation, West New Brighton, Staten Island, N. Y., proved President R. Hoyt Sloan's contention that there is business for those who actively go after it. He asserts that the plan followed not only resulted in a substantial increase in the sales of the company's Shur-Line fire extinguishers but in a decided improvement in the morale of the members of the field force. The actual orders received and the encouraging sales contacts made showed conclusively that there is business, in real volume, for any man who goes after it. Salesmen increased their working time as well as the number of sales made per day.

A selected group of the "volunteers" who pledged themselves to follow the plan showed a 274 per cent gain in the number of sales made daily and an increase in sales in dollars of 90.5 per cent. "This record is the more impressive," states Mr. Sloan, "when it is considered that complete installations necessitated a survey and a submission of a written proposal covering the requirements of each building to be protected."

Mr. Sloan believes that because of its simplicity and adaptability the plan can be followed in any line, and he will be glad to send a synopsis of it to secretaries of trade associations, chambers of commerce, or others interested.



**SULPHURIC ACID  
SUPERPHOSPHATE  
TRIPLE SUPERPHOSPHATE  
MANGANESE SULPHATE**  
*Manufactured and Distributed by*  
**THE DAVISON CHEMICAL CO.**  
Main Office, Baltimore Trust Bldg., Baltimore, Md.

Main Plant, Baltimore; Pyrites Deposits Cienfuegos District, Cuba; Phosphate Rock Plant, Southern Phosphate Corporation, Bartow, Florida.  
Plants Handling Complete Fertilizers and Fertilizer Materials: Maryland 11; Virginia 9; Pennsylvania 10; Georgia 2; Ohio 2; North Carolina 11; South Carolina, Mississippi, Louisiana, Texas, Indiana, West Virginia, Tennessee, Connecticut and New Jersey 1 each.

**WE** extend the facilities of our organization to those desiring information or reports on companies with which we are identified.

**Electric Bond and Share Company**

Two Rector Street

New York

**PERFORATED METALS**

We punch and perforate steel, copper, brass, zinc, aluminum, tin and all other metals to meet every requirement.

43 years' experience enables us to give superior service.  
Send for catalogue

**Charles Mundt & Sons**  
490 JOHNSTON AVE., JERSEY CITY, N. J.

**Does Your Banking Connection**

meet all of your business requirements?

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**BALTIMORE COMMERCIAL BANK**

GWYNN CROWTHER, President

26 South Street, Baltimore, Md.

Capital and Surplus \$1,350,000.00

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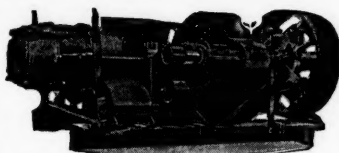
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**CLAY WORKING MACHINERY**

For Brick, Tile and Block, from smallest to largest capacity.

Write for catalogue.  
Full line equipment.

**J. C. STEELE & SONS**  
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**JOHN NUVEEN & CO.**

First National Bank Building

CHICAGO

We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.

Write us if you have bonds for sale

**THE GEORGIA MARBLE COMPANY**

Producers and Manufacturers of

**GEORGIA MARBLE**

Tate, Georgia

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**We Buy Bonds**

City, County, School and Road from Municipalities and Contractors

WRITE

**THE PROVIDENT SAVINGS BANK & TRUST CO.**  
CINCINNATI OHIO

**BANKS** and Financial organizations seeking to enlarge their business in the South will find an advertisement in the Manufacturers Record a means of contact carrying with it an atmosphere of responsibility and dignity.

May we discuss this with you?

**MANUFACTURERS RECORD**

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WE BUY ALL CLASSES OF MUNICIPAL BONDS, INCLUDING CITY, COUNTY, SCHOOL, PAVING, ROAD AND DRAINAGE

*The Hanchett Bond Co. Inc.*

39 SOUTH LA SALLE ST., CHICAGO

BRICK—CHIMNEYS—CONCRETE  
**BOILER BRICKWORK**

**The Rust Engineering Co.**

Engineers and Contractors

BIRMINGHAM, ALABAMA

PITTSBURGH—WASHINGTON—NEW YORK—CHICAGO



## \$4,000,000 HOUSING DEVELOPMENT

### Work to Begin on English Type Village in Baltimore

Construction will be started immediately on the reconstruction of 15 houses, initial operation in plans of the Interstate Properties Corporation, New York, Stephen N. Bobo, president, to convert Hillsdale on Gwynn's Falls, Baltimore, into an English type village. Along with the reconstruction of these houses, the company plans also the construction and completion of roads, sewers, etc., at a total estimated cost of \$165,000. Upon completion of this work 23 single buildings will be started to complete the village, all at a cost of \$167,500. Plans contemplate buildings on a total of 431 lots, involving an outlay of \$4,000,000.

The purpose of the company is to provide buildings harmonious in design and so located that each property, occupying a relatively small piece of land, will have the appearance of providing a large amount of open space. This will be effected by laying out irregular streets and lot lines and locating houses at irregular points. A maximum of recreational and park facilities will be provided, and in support of this it is pointed out that 229 of the 431 building lots have a direct frontage on the Hillsdale Golf Course. These lots provide not only yards, 40 by 110 feet, but give an unobstructed view over the 400 acres comprising Hillsdale Park.

As designed, the entire development would comprise a self-contained community with necessary stores, community club, tennis courts, swimming pool, riding academy and other recreational advantages. Operations are under the direct supervision of the Interstate Properties Corporation; William Dewey Foster is the architect, and Laurence P. Sangston, associate architect in charge of development.

### Eastern Air Transport Recounts Progress

According to an annual summary of progress, released by the Eastern Air Transport, Inc., Brooklyn, N. Y., 15 cities were added to the Eastern Air Transport passenger system during 1931, 1324 miles of new airway were added to the company's routes and mail and passenger volumes reached new high records. This company operates between New York, Philadelphia, Baltimore, Washington, Atlantic City, Richmond, Norfolk, Raleigh, Florence, Charleston, Savannah, Greensboro, Charlotte, Spartanburg,

Greenville, Atlanta, Macon, Jacksonville, Daytona Beach, Orlando, Tampa, St. Petersburg and Miami, connecting at New York with New England and Canadian services and at Miami with Latin American services. Other connections to all parts of the country are made at New York, Philadelphia, Washington and Atlanta.

The passenger system in the East was extended more than 2000 miles, of which 1324 miles were entirely new and the remainder had been served for air mail only. The company is now flying a total of 12,549 scheduled miles daily with mail and passengers and its route is 2376 miles. More recent months have shown an increase of about 300 per cent in passenger volume over the first few months of the year, while air mail volume will exceed 930,000 pounds for the year, an increase over 1930 of 280,000 pounds. An important development of the year was the inauguration of the new coastal route between Richmond and Jacksonville, which added Raleigh, Florence, Charleston and Savannah to cities receiving air transport services and shortened the airway between Canada and Latin America.

Eight new passenger routes were inaugurated by the company during 1931, two of which were seasonal and the remainder on a year-round basis. Terminal cities for each route are: Atlanta-Miami, Daytona Beach-St. Petersburg, Richmond - Jacksonville, Newark - Atlantic City, Washington - Atlantic City (seasonal), Atlantic City-Camden (seasonal), Richmond-Norfolk and Atlanta-Charleston-Savannah, the last named being the most recent addition and including Augusta. Other important items of progress in 1931 have been the development of communication facilities, terminal facilities and the reduction of rates. The company installed 11 private two-way radio stations for communication between planes in flight and ground stations, each plane being equipped for using radio-telephone as well as radio-telegraph. All night planes were equipped with receiving apparatus, and radio facilities were coordinated with private wire systems already maintained by Eastern Air Transport. A large terminal hangar was built at Newark Airport early in the year and this is now the base for three companies. Eastern Air Transport owns 46 airplanes, ranging from 18-passenger Curtiss Condors to small swift night-flying airmail craft, and employs upward of 500 people.

FLORIDA CITRUS growers have been encouraged by fair prices and steady demand at a time when heavy selling usually lowers the price schedule.

### Prison Contract Awarded

El Reno, Okla.—The Bureau of Prisons, Department of Justice, Washington, awarded general contract to W. S. Belows Co., Oklahoma City, to erect an administration and receiving building for the first unit of a \$3,000,000 Federal Reformatory here. Construction is expected to be completed within ten months. Hawk & Parr, Oklahoma City, are the architects.

### School for Handicapped

Handicapped children in Baltimore will be given every opportunity in the \$475,000 school being designed especially for their needs by Mackenzie and Cross, Baltimore architects. In addition to 28 classrooms and facilities for science, manual training, art and craft work, sewing and cooking, the proposed institution will contain rooms and equipment for physiotherapy, hydrotherapy and heliotherapy. Doctor's, dentist's and nurse's quarters are included. Showers and dressing rooms for boys and for girls are part of the plan.

A playroom and a cot room will be provided, and a conservatory will open on a court located in the middle of the development. The auditorium will seat 258 spectators and will contain space for wheel chairs, as well as the stage and complementary equipment. The lunchroom will have a capacity for 208 children. Buses will discharge pupils on to brick porches, which are to be connected with the main floors by ramps.

Of Georgian architectural design, the building will be one and two stories high and will cover a site approximately 295 by 245 feet. Walls will be of brick; the foundation concrete. Cut stone trim will be used and steel sash installed. Concrete joists will support the composition and terrazzo floors and the composition and slate roof. Both the inside walls and ceilings will be plastered. Dumb waiters, an incinerator and a ventilating system will be installed. It is expected that bids will be received about February 1.

Reeder, Eiser & Akers are the mechanical engineers for the structure; Henry Massart, the structural engineer. H. J. Leimbach is supervising engineer for the Public Improvement Commission, under whose direction the school is being built.

SPARTA-WELLWOOD SILK MILL, Sparta, Tenn., has purchased an adjoining building, and will there install part of its machinery, making room for installation of more looms in the original unit.





# PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close January 11, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 19, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 11, 1932, for furnishing all labor and materials and performing all work for the demolition, excavation, and foundations of the U. S. post office, etc., at Springfield, Ohio. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 22, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 18, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 22, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. inspection station at Champlain, N. Y. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 25, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 21, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 25, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Norman, Okla. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 4, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 4, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 4, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Texas City, Texas. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

## GENERAL INFORMATION

### About Proposal Advertising in Manufacturers Record

PUBLICATION DAY: Thursday.  
FORMS CLOSE: 10 A. M. Tuesday.

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible.

### THE DAILY CONSTRUCTION BULLETIN OF THE MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

Bids close January 5, 1932.

U. S. ENGINEER OFFICE, FIRST NEW ORLEANS DISTRICT, Poland and Dauphine Sts., New Orleans, La., December 4, 1931.—Sealed bids, in duplicate, will be received until 3.00 P. M., January 5, 1932, and then publicly opened for furnishing all labor and materials and performing all work for dredging the Louisiana and Texas Intracoastal Waterway, Mississippi River-Atchafalaya River Section, from Harvey to Bayou Blue, La., comprising approximately 6,554,100 cubic yards, place measurement. Further information on application.

Bids close January 5, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 8, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 5, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Wadesboro, N. C. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 11, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 14, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 11, 1932, for furnishing all labor and materials and performing all work for the extension and remodeling (except elevators) of the U. S. post office, court house, etc., at Americus, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 5, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 15, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 5, 1932, for furnishing all labor and materials and performing all work for the remodeling and enlarging of the U. S. post office at Braddock, Pa. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding one set, may be obtained by any satisfactory general contractor at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 4, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 12, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office, Room 439, at 2 p. m., January 4, 1932, for furnishing all labor and materials and performing all work for the remodeling and enlarging of the U. S. post office and court house at Augusta, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding one set, may be obtained by any satisfactory general contractor at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

## Veterans Hospital in St. Petersburg, Fla.

Subcontractors in all trades please note: Watt & Sinclair of Fla., Palm Beach, Fla., are anxious for your estimate as soon as possible. Also prices from material dealers.

Bids close December 29, 1931.

## Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS  
STATE OF MARYLAND  
STATE ROADS COMMISSION

### NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building two sections of State Highway as follows:

Baltimore City, Contract No. BC-111-74—One section of State Highway along Patapsco Avenue from Brooklyn Avenue to Pennington Avenue for a distance of 0.60 mile (Sheet Asphalt)

Calvert County, Contract No. C-42-84—One section of State Highway from Prince Frederick toward Dare's Wharf for a distance of 2.69 miles (Gravel)

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M. on the 29th day of December, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 15th day of December, 1931.

G. CLINTON UHL, Chairman.  
L. H. STEUART, Secretary.



# CLASSIFIED OPPORTUNITIES

## MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

**60,000,000 FEET VIRGINIA HARDWOODS**  
Principally Yellow Poplar, Red and White Oak, located Patrick County, Great Potential value for hydro-electric power development, now desired two large companies. Will also entertain some sort deal for operation with reliable concern. Particulars address No. 9150, care of Manufacturers Record, Baltimore, Md.

## TIMBER AND TIMBER LANDS FOR SALE

Valuable timber of a thousand acres, containing fifteen million feet, for sale at a great sacrifice. Near soil road and Coast Line Railroad.  
**SAMUEL HAIRSTON,**  
Wenonda, Va.

## FARM, FRUIT AND TRUCK LANDS

**NORTH CAROLINA**  
NORTH CAROLINA, Central and Eastern Portion. 500 farms to select from. Finest soil for general farming and trucking, stock raising, hunting and fishing. Plenty of game. Industrial sites in leading state of South.  
**S. M. THOMPSON,** Roanoke Rapids, N. C.

## CATTLE RANCH

**FOR SALE**—31,512 acres, for cattle ranch. Consists of mountains covered with heavy timber and large valleys, river crossing entire tract, no houses nor fenced. Will not trade nor sell in small tracts. \$0.50 U. S. Cy. per acre; accept half cash. Write P. O. Box 2707, Mexico City.

## FARM AND INDUSTRIAL SITES

**FOR SALE**—FARM AND INDUSTRIAL SITES. With River, Rail and Highway facilities; 20 miles above New Orleans. Inducements offered.  
**C. B. FERDON,** Norco, La.

## WAREHOUSE

**FOR SALE OR FOR RENT OR LEASE**  
As A Whole Or Part  
4 Acres on the King's Highway (Gosport Road), Portsmouth, Va., with Belt Line Railroad connection—800 feet private side track, large sheds and warehouse all fenced, suitable for indoor or outdoor storage.  
**MCWEEN LUMBER COMPANY,**  
High Point, N. C.

## FACTORY SITES

**FOR RENT**—Lot containing 43,000 sq. ft. with side track, suitable for factory or oil and gas storage and distributing plant.  
**KENTUCKY & INDIANA TERMINAL**  
R. R. CO.,  
2910 High Street, Louisville, Ky.

## Rates, Terms and Conditions

**RATES:** 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

### Rates for Special Contract:

100 lines 28c a line  
300 lines 26c a line  
500 lines or more 25c a line

**TERMS:** For transient advertising cash with order; check, post office or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

**CONDITIONS:** No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

## FACTORY BUILDING

**THE SOUTH YOUR MARKET**  
For sale or lease four-story brick building, floor space 19,200 square feet. Located Winston-Salem, North Carolina, between Norfolk and Western, Southern and Winston-Salem Southbound Railway lines. Located ideally for city and territory distribution. Winston-Salem is the gateway to the great Piedmont Section of the North-west; here labor, power, climate and transportation offset an economic condition unsurpassed in the entire Southland. Ideal for manufacturing and distributing. On account of default present owner offers exceptional opportunity for sale or lease of the above property. Address No. 9149, care of Manufacturers Record, Baltimore.

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## AGENCIES WANTED

**SALES ENGINEER** travelling Atlanta territory interested in handling several lines of power plant machinery. Box 653, Atlanta, Ga.

## RETURNING TO EUROPE

Capable to represent responsible firm. Connection with growing organization marketing new products preferred. Address No. 9153, care Manufacturers Record.

## REPRESENTATIVES WANTED

### TRACTOR AND ROAD MACHINERY SALESMEN

Splendid opportunity for men who have initiative, sales ability and willingness to work. Thirty to forty years of age. Southern territory. Line is tractors and road machinery. Established in this territory twenty years. Volume exceeds all competitors combined. Give full details, age, education, married or single, complete business history, and references from former employers in first letter. All replies in confidence. Address No. 9152, care of Manufacturers Record, Baltimore, Md.

## SITUATIONS WANTED

**FIRE PROTECTION** Engineer Inspector, twenty years experience, seeks connection corporation having large or scattered property. College education. Knowledge all insurance rating requirements. Location anywhere. Address No. 9154, care of Manufacturers Record, Baltimore, Md.

**INDUSTRIAL TRAFFIC MANAGER**—With extensive experience in all phases freight rate work and successful record handling litigation before the Interstate Commerce Commission is open to proposition from chamber of commerce, trade organization or individual industry. Address No. 9155, care of Manufacturers Record.

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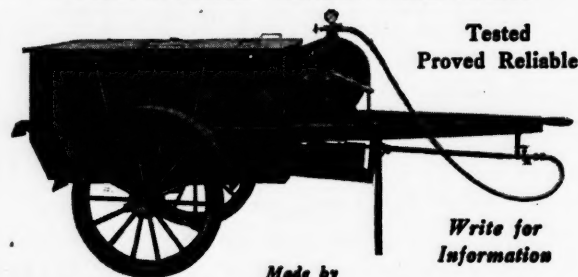
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## AERIAL TOWERS.

LeBourg, A., Gadsden, Ala.

## AIR COMPRESSORS (Stationary and Portable.)

Armstrong & Bro. Co., R. S., Atlanta, Ga.  
De Laval Steam Turbine Co., Trenton, N. J.  
General Electric Co., Schenectady, N. Y.  
Westinghouse Traction Brake Co., Wilmerding, Pa.

## AIR CONDITIONING SYSTEMS.

Niagara Blower Co., New York, N. Y.

## AIR HEATERS.

Babcock & Wilcox Co., New York.

## AIRLOCKS.

Alco Products, Inc., New York, N. Y.

## ANGLE IRON-WORKING MACHINERY.

Whitney Metal Tool Co., Rockford, Ill.

## APPRAISERS.

Mata, Inc., Chas. T., Boston, Mass.

## ARCHITECTS.

Chase, Wm., J. J., Atlanta.  
Main, Inc., Chas. T., Boston, Mass.  
Milburn, Helster & Co., Wash., D. C.  
Moyer Co., Tilghman, Allentown, Pa.  
Preacher & Co., Inc., G. Lloyd, Atlanta.  
Birrine & Co., J. E., Greenville, S. C.

## ARCHITECTS' SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

## ARCHITECTURAL IRON WORK.

Dietrich Brothers, Baltimore, Md.  
Virginia Bridge & Iron Co., Roanoke, Va.

## ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

## —Filler.

American Limestone Co., Knoxville, Tenn.

## —Paving.

Barber Asphalt Co., Philadelphia, Pa.

## —Plants.

Simplicity System Co., Chattanooga, Tenn.

## AUDITORS.

Ernst & Ernst, New York, N. Y.

## BALLAST (Railroad.)

American Limestone Co., Knoxville, Tenn.

## BANKS and TRUST COMPANIES.

Baltimore Commercial Bank, Balto, Md.  
Baltimore Trust Co., Baltimore, Md.  
Bank of New York & Trust Co., New York City.  
First and Merchants National Bank, Richmond, Va.  
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

## BARGES (Steel.)

American Bridge Co., New York, N. Y.  
McClintic-Marshall Co., Pittsburgh, Pa.

## BARB (Steel, Rounds, Flats, Hexagon and Squares.)

Carnegie Steel Co., Pittsburgh, Pa.  
Gulf States Steel Co., Birmingham, Ala.  
Ingalls Iron Works Co., Birmingham.  
Sweet's Steel Corp., Williamsport, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

## BATTERIES (Storage.)

Electric Storage Battery Co., Phila., Pa.

## BEAMS, CHANNELS, ANGLES.

Belmont Iron Works, Philadelphia, Pa.  
Carnegie Steel Co., Pittsburgh, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

## BELT (Chain.)

Diamond Chain & Mfg. Co., Indianapolis.

## —(Leather, Canvas, Rubber.)

Charlotte Leather Belting Co., Charlotte, N. C.

## —Dressing.

Charlotte Leather Belting Co., Charlotte, N. C.

## —Fasteners.

Flexible Steel Lacing Co., Chicago, Ill.

## —Lacing (Steel Hinges.)

Flexible Steel Lacing Co., Chicago, Ill.

## BILLETS (Basic Open Hearth.)

Gulf States Steel Co., Birmingham, Ala.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

## BINS (Steel Loading.)

Blaw-Knox Co., Pittsburgh, Pa.

## BLASTING POWDER and Accessories.

De Pont & Nemours & Co., E. L., Wilmington, Del.

## BLINDS (Venetian and Awning.)

Wilson Corp., The J. G., New York.

## BOILER REPAIRS.

Finnigan Co., Inc., J. J., Atlanta, Ga.

## BOILERS (New.)

Babcock & Wilcox Co., The, New York.  
Charleston Dry Dock & Machine Co., Charleston, S. C.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Cole Mfg. Co., R. D., Newnan, Ga.  
Hedger Walsh Welding Co., Chattanooga, Tenn.  
Leahard Iron Works & Supply Co., Augusta, Ga.  
Scheldt's Sons Co., J. S., Macon, Ga.  
Titusville Iron Works Co., Titusville, Pa.

## —(Oil.)

Babcock & Wilcox Co., New York.

## —(Used.)

Delta Equipment Co., Philadelphia, Pa.

O'Brien Machinery Co., Philadelphia, Pa.

## BOILER SETTINGS.

Babcock & Wilcox Co., New York.

Brooks-Fisher Co., Atlanta, Ga.

## —Tubes.

Babcock & Wilcox Co., New York.

National Tube Co., Pittsburgh, Pa.

## —Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

## BOLTS, Rivets, Studs, Washers.

Bethlehem Steel Co., Bethlehem, Pa.  
Oliver Iron & Steel Corp., Pittsburgh, Pa.  
Progressive Mfg. Co., Torrington, Conn.  
Russell, Burdall & Ward Bolt & Nut Co., Fort Chester, N. Y.  
Virginia Bridge & Iron Co., Roanoke, Va.

## —(Track.)

Sweet's Steel Co., Williamsport, Pa.

## BOND BUYERS.

Hanchett Bond Co., Inc., The, Chicago.

Law & Co., A. M., Spartanburg, S. C.

Nuveen & Co., John, Chicago, Ill.  
Provident Savings Bank and Trust Co., Cincinnati, Ohio.

## BORINGS (Core.)

Kennedy-Biegger Drilling Co., New York City.  
Mott Core Drilling Co., Huntington, W. Va.  
Pennsylvania Drilling Co., Pittsburgh, Pa.  
Southern Drilling Co., Saltville, Va.  
Sprague & Henwood, Inc., Scranton, Pa.

## BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

## BRASS GOODS.

Mueller Co., Decatur, Ill.

## BRICK (Common Building.)

Friend & Co., Inc., Petersburg, Va.

## —(Vitrified, Paving.)

National Paving Brick Assn., Washington, D. C.

## —and Clayworking Machy.

Steele & Sons, J. C., Statesville, N. C.

## BRIDGE (Operating Machinery.)

Earle Gear & Machine Co., Phila., Pa.

## —Slabs.

Kerlow Steel Flooring Co., Jersey City, N. J.

## —Stringers, Timber (Creosoted.)

American Crosstie Wks., New Orleans, La.  
American Crosstie Co., Louisville, Ky.  
Atlantic Crosstie Co., Norfolk, Va.  
Ayer & Lord Tie Co., Chicago, Ill.

## BRIDGES (Steel.)

American Bridge Co., New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Bristol Steel & Iron Works, Inc., Bristol, Va.  
Converse Bridge & Steel Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Roanoke Iron & Bridge Works, Roanoke, Va.  
Virginia Bridge & Iron Co., Roanoke, Va.

## BRONZE (Architectural.)

Cincinnati Mfg. Co., Cincinnati, O.

Heath Company, J. S., Washington, Ill.

## BUBBLERS.

Bundle-Spence Mfg. Co., Milwaukee, Wis.

## BUCKETS (Clam Shell.)

Blaw-Knox Co., Pittsburgh, Pa.  
Owen Bucket Co., The, Cleveland, Ohio.  
Williams Company, G. H., Erie, Pa.

## —(Coal.)

Owen Bucket Co., Cleveland, O.

## —(Dredging, Excavating, Sewer, etc.)

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

Williams Company, G. H., Erie, Pa.

## —(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.

## —(Material Handling.)

Owen Bucket Co., Cleveland, O.

## —(Ore Handling.)

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

## —(Rehandling.)

Owen Bucket Co., Cleveland, O.

## —(Sand and Gravel.)

Owen Bucket Co., Cleveland, O.

Williams Company, G. H., Erie, Pa.

## BUILDERS and Contractors.

Copper Co., Inc., John W., Washington, D. C.  
Lockwood Greene Engrs., Inc., Boston.  
Moyer Co., Tilghman, Allentown, Pa.  
White Engineering Corp., J. G., New York.

## BUILDING GRANITE (Finished.)

North Carolina Granite Corp., The, Mount Airy, N. C.

## BUILDINGS (Industrial.)

Belmont Iron Works, Philadelphia, Pa.  
Blaw-Knox Co., Pittsburgh, Pa.  
Ingalls Iron Works Co., Birmingham.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.

## —(Portable Sheet Metal.)

Birmingham Tank Co., Birmingham.

## BULKHEADS.

Show-Line Builders, Inc., Jacksonville, Fla.

Suare Corp., Frederick, New York, N. Y.

## BULLDOZERS.

Trackson Co., Milwaukee, Wis.

## BURLAP.

Fulton Bag & Cotton Mills, Atlanta, Ga.

## BUSINESS METHODS.

Ernst & Ernst, New York, N. Y.

## CABLE (Elevator.)

American Steel & Wire Co., Chicago, Ill.

Roebbing's Sons Co., John A., Trenton, N. J.

## —and Wire (Electric.)

American Steel & Wire Co., Balto, Md.

Roebbing's Sons Co., John A., Trenton, N. J.

Western Electric Co., New York City.

## CALCIUM CHLORIDE.

Grasselli Chemical Co., Inc., Birmingham.

## CAN and Box-Making Machinery (Tin.)

Bliss Co., E. W., Brooklyn, N. Y.

## CANNING MACHINERY.

Robins & Co., A. K., Baltimore, Md.

## CANVAS.

Fulton Bag & Cotton Mills, Atlanta, Ga.

## CARS (Dump, Industrial, Logging and Mine.)

Atlas Car & Mfg. Co., The, Cleveland, O.

Southern Iron & Equipment Co., Atlanta.

## CASSIONS (Foundations, Water Wells, etc.)

United Welding Co., Middletown, O.

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Cincinnati Steel Castings Co., Cincinnati, O.

Mountain State Steel Foundries, Parkersburg, W. Va.

—(Brass, Bronze and Aluminum.)

Richmond Foundry & Mfg. Co., Richmond, Va.

## —(Chilled Iron.)

Fuller Lehigh Co., Fullerton, Penna.

## —(Gray Iron.)

Fuller Lehigh Co., Fullerton, Penna.

Glaesman Pipe & Fdy. Co., Lynchburg, Va.

Jefferson Foundry Co., Birmingham, Ala.

Richmond Foundry & Mfg. Co., Richmond, Va.

Salem Fdry. & Mch. Wks., Salem, Va.

Scheldt's Sons Co., J. S., Macon, Ga.

U. S. Pipe & Foundry Co., Burlington, N. J.

## —(Semi-Steel.)

Jefferson Foundry Co., Birmingham, Ala.

Salem Fdry. & Mch. Wks., Salem, Va.

## —(Steel.)

Bethlehem Steel Co., Bethlehem, Pa.

Cincinnati Steel Castings Co., Cincinnati, O.

Cresible Steel Casting Co., Lansdowne, Delaware Co., Pa.

Lunkenshimer Co., Cincinnati, Ohio.

Mountain State Steel Foundries, Parkersburg, W. Va.



**CHAINS (High Speed Roller.)**

Diamond Chain &amp; Mfg. Co., Indianapolis.

**—(Silent Drive.)**

Diamond Chain &amp; Mfg. Co., Indianapolis.

**CHAIRS (Opera and Theatre.)**

Andrews Co., A. H. Chicago, Ill.

**CHEMICALS.**

Davison Chemical Co., Baltimore, Md.

Grasselli Chemical Co., Inc., Birmingham.

**CHEMISTS, CHEMICAL ENGINEERS (Analytical.)**

Froehling &amp; Robertson, Inc., Richmond, Va.

Hunt Co., Robert W., Chicago, Ill.

Longdale Laboratories, Inc., Richmond, Va.

Melgs, Bassett &amp; Slaughter, Phila., Pa.

Moss, Jr., W. Wade, Columbus, Ga.

Picard Laboratories, Birmingham, Ala.

Pittsburgh Testing Laboratories, Pittsburgh, Pa.

Southwestern Laboratories, Fort Worth, Tex.

Stillman &amp; Van Sielen, New York.

**—(Consulting, Paper Industry.)**

Froehling &amp; Robertson, Inc., Richmond, Va.

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Rust Engineering Co., Birmingham, Ala.

**—(Radial Brick.)**

Rust Engineering Co., Birmingham, Ala.

**CHLORIDE ACCUMULATOR.**

Electric Storage Battery Co., Phila., Pa.

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Cutler Mail Chute Co., Rochester, N. Y.

**CLUTCHES (Friction.)**

Caldwell Co., Inc., W. E., Louisville, Ky.

**COAL (Bituminous.)**

Tennessee Coal, Iron &amp; Railroad Co., Birmingham, Ala.

**—and Ash-Handling Mch.**

Northwest Engineering Co., Chicago.

**—Jigs.**

Steward Machine Co., Chas. C., Birmingham, Ala.

**—Tipples.**

American Bridge Co., New York, N. Y.

Virginia Bridge &amp; Iron Co., Roanoke, Va.

**—Washers.**

Steward Machine Co., Chas. C., Birmingham, Ala.

**COOKS (Service.)**

Morse Nordstrom Valve Co., San Francisco, Calif.

**COKE.**

Tennessee Coal, Iron &amp; Railroad Co., Birmingham, Ala.

**COLUMNS (Cast Iron.)**

U. S. Pipe &amp; Fdy. Co., Burlington, N.J.

**CONCRETE Construction (Reinforced.)**

Cement Gun Construction Co., Chicago.

Rust Engineering Co., Birmingham, Ala.

**—Mixers.**

Dunning &amp; Boeschert Press Co., Inc., Syracuse, N. Y.

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Manistee Iron Works Co., Manistee, Mich.

**CONDUITS (Electric, Interior, Steel.)**

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Youngstown Sheet &amp; Tube Co., Youngstown, Ohio.

**CONTRACTORS (Bridge.)**

Hardaway Contracting Co., Columbus, Ga.

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Snare Corp., Frederick, New York.

—(Drainage and Dredging.)

Arundel Corp., The, Baltimore, Md.

Atlantic Gulf and Pacific Co., New York.

**—Drilling.**

Kennedy-Riegger Drilling Co., New York City.

Mott Core Drilling Co., Huntington, W. Va.

Pennsylvania Drilling Co., Pittsburgh, Pa.

Southern Drilling Co., Saltville, Va.

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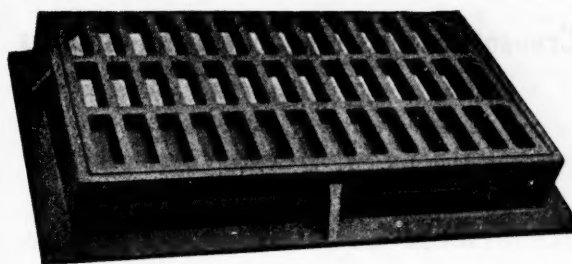
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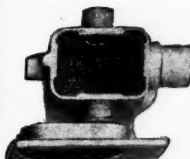
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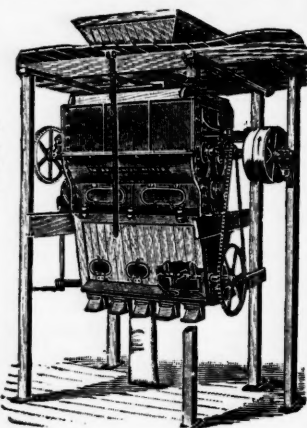
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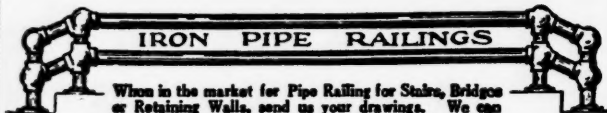
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Whitaker Paper Co., Baltimore, Md.

**REINFORCING for Concrete.**

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Austin Bros. Bridge Co., Atlanta, Ga.  
Carnegie Steel Co., Pittsburgh, Pa.  
Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.

Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
Oliver Iron & Steel Corp., Pittsburgh, Pa.

**RIVER & HARBOR IMPROVEMENTS, (Dredging, Docks, Wharves, etc.)**

Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.  
Kansas City Bridge Co., Kansas City.

**RIVETS.**

Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

**ROAD and Street Machinery.**

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Buffalo-Springfield Roller Co., Springfield, O.  
Caterpillar Tractor Co., Peoria, Ill.  
Gillie Machine Co., Tonawanda, N. Y.  
Universal Crane Co., Lorain, Ohio.

—and Street Material.

Bowley & Co., W. W., Roanoke, Va.  
Woodstock Slag Corp., Birmingham, Ala.

—Graders and Scrapers.

Caterpillar Tractor Co., Peoria, Ill.

—Oils and Preservatives.

Gulf Refining Co., Pittsburgh, Pa.

—Rollers (Steam and Gasoline.)

Buffalo-Springfield Roller Co., Springfield, O.

—Scarifiers.

Buffalo-Springfield Roller Co., Springfield, O.

**ROOF INSULATION.**

United Cork Companies, Lynhurst, N. J.

**ROOFING (Asphalt Built-Up.)**

Barber Asphalt Co., Philadelphia, Pa.

—(Ready Prepared, Felt, Tar, Asbestos, Asphalt.)

Ruberoid Co., New York City.

—and Siding (Composition.)

Ruberoid Co., New York City.

—and Siding (Metal.)

American Rolling Mill Co., Middletown, O.  
American Sheet and Tin Plate Co., Pittsburgh, Pa.  
Gulf State Steel Co., Birmingham, Ala.  
Youngstown Sheet and Tube Co., Youngstown, O.

**SAFES.**

York Safe & Lock Co., York, Penna.

**SAND.**

Arundel Corp., Baltimore, Md.  
Friend & Co., Inc., Petersburg, Va.  
Georgia Sand & Gravel Co., Augusta, Ga.

**SANITARY Drinking Fountains.**

Rundie-Spence Mfg. Co., Milwaukee, Wis.

**SAWMILL Machinery.**

Schofield's Sons Co., J. S., Macon, Ga.

**SAWS (Cold Metal.)**

Earle Gear and Machine Co., Phila., Pa.

**SCRAP IRON AND STEEL.**

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Perry, Buxton, Doane Co., Philadelphia.  
Smith & Co., W. M., Birmingham, Ala.

**SCREEN CLOTH.**

Seneca Wire & Mfg. Co., Fostoria, Ohio.

**SCREENING (For Concrete and Road Construction.)**

American Limestone Co., Knoxville, Tenn.

**SCREENS (Sand, Gravel, Stone, Coal, Ore, etc.)**

Chicago Perforating Co., Chicago, Ill.  
Erdie Perforating Co., Rochester, N. Y.  
Grundler Crusher & Pulverizer Co., St. Louis, Mo.  
Hendrick Mfg. Co., Carbondale, Pa.  
Mundt & Sons, Charles, Jersey City, N.J.  
Universal Crusher Co., Cedar Rapids, Ia.



**SCREW-Machine Products.**  
Progressive Mfg. Co., Torrington, Conn.

**SCREWS (Machine.)**  
Progressive Mfg. Co., Torrington, Conn.

**SEAWALLS.**  
Shore-Line Builders, Inc., Jacksonville, Fla.

**SEWAGE Disposal Apparatus.**  
Pacific Flush-Tank Co., New York, N. Y.  
—Disposal System.  
D-N Corporation, Winston-Salem, N. C.

**SEWER Joint Compounds.**  
Leadite Co., Philadelphia, Pa.  
Pacific Flush-Tank Co., New York, N. Y.  
—Pipe (Vitrified).  
Barnes Pipe Co., Louisville, Ky.  
Lee Clay Products Co., Clearfield, Ky.  
Owensboro Sewer Pipe Co., Owensboro, Ky.

**SHAFTING Material (Tubular.)**  
National Tube Co., Pittsburgh, Pa.

**SHARPENING Stones.**  
Carborundum Co., Niagara Falls, N. Y.

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Whitney Metal Tool Co., Rockford, Ill.  
Yoder Co., The, Cleveland, Ohio.

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American Sheet and Tin Plate Co., Pittsburgh, Pa.  
Bethlehem Steel Co., Bethlehem, Pa.  
Gulf States Steel Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Youngstown Sheet & Tube Co., Youngstown, O.

**SHEETS (Asbestos.)**  
Esberoid Co., New York City.

—(Galvanized and Black).  
American Rolling Mill Co., Middletown.  
American Sheet & Tin Plate Co., Pittsburgh, Pa.

**SHINGLES (Asbestos.)**  
Esberoid Co., New York City.

**SHIPBUILDING.**  
Charleston Dry Dock & Machine Co., Charleston, S. C.  
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

**SHOVELS (Steam, Gas and Electric Power.)**  
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Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

**SHUTTERS (Steel.)**  
Merchant & Evans Co., Philadelphia, Pa.

**SIGNALS. (Danger.)**  
Consolidated Iron-Steel Mfg. Co., Cleveland, O.

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Grasselli Chemical Co., Inc., Birmingham.

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Atlanta and West Point R. R., Atlanta.  
Central of Georgia Ry., Savannah, Ga.  
Crisp County Power Commission, Cordele, Ga.  
Galveston, City of Galveston, Texas.  
Missouri-Kansas-Texas Lines, Dallas, Tex.  
Model Land Company, (Flagler System), St. Augustine, Fla.  
Norfolk & Western Railway, Roanoke, Va.  
Parkersburg, W. Va., Board of Commerce.  
Reynolds Bros. Lbr. Co., Albany, Ga.  
Southern Natural Gas Corp., Birmingham.  
Texas Power & Light Co., Dallas, Texas.  
Industrial Commission, Winston-Salem, N. C.

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Woodstock Slag Corp., Birmingham, Ala.

—(Furnace).  
Woodstock Slag Corp., Birmingham, Ala.

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Beeching's Sons Co., John A., Trenton, N. J.

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Smith Co., S. Morgan, York, Pa.

**SPEED REDUCERS.**  
Earle Gear & Mach. Co., Phila., Pa.

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Sweet's Steel Co., Williamsport, Pa.

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—(Wire—All Kinds).  
American Steel & Wire Co., Balto., Md.

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Moore Pipe & Sprinkler Co., Jacksonville, Fla.

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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Birmingham.  
Downingtown Iron Works, Downingtown, Pa.  
Hedger Walsh Weldner Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Scheffelt's Sons Co., J. S., Macon, Ga.  
U. S. Pipe & Foundry Co., Burlington, N. J.  
Virginia Bridge & Iron Co., Roanoke, Va.

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Cabot, Inc., Samuel, Boston, Mass.

**STAIR TREADS.**  
Central Iron & Steel Co., Harrisburg, Pa.

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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Birmingham.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

**STATIONERS (Envelopes, Letter and Billheads, etc.)**  
Smith & Son Co., Oscar T., Baltimore, Md.  
Young & Selden Co., Baltimore, Md.

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Lunkenheimer Co., The Cincinnati, O.  
Mueller Co., Decatur, Ill.

**STEEL.**  
Bethlehem Steel Co., Bethlehem, Pa.  
Central Iron & Steel Co., Harrisburg, Pa.  
Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
Oliver Iron & Steel Corp., Pittsburgh, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.


—(Cold Rolled).  
American Steel & Wire Co., Balto., Md.

—(Fabricators).  
United Welding Co., Middletown, O.

—(Tool, High Speed).  
Bethlehem Steel Co., Bethlehem, Pa.

—Buildings (Designers and Builders).  
American Bridge Co., New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Carolina Steel & Iron Co., Greensboro, N. C.  
Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
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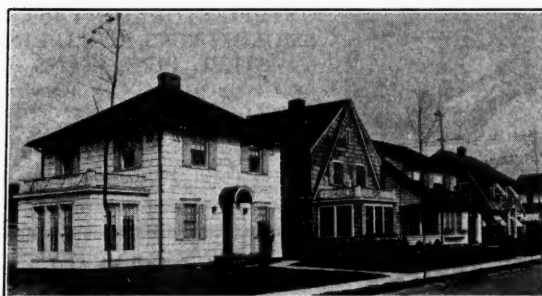
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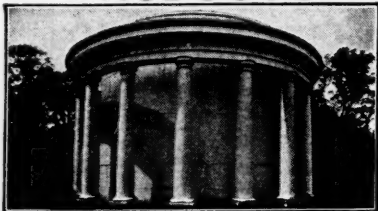
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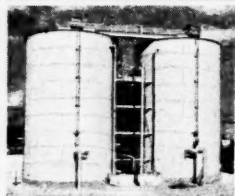
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Chicago Bridge & Iron Wks., Birmingham.  
Downingtown Iron Works, Downingtown, Pa.  
Hedgcs Walsh Weldner Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
Phoenix Iron Co., The Phila., Pa.  
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United Welding Co., Middletown, O.

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Bristol Steel & Iron Works, Inc., Bristol, Va.  
Carnegie Steel Co., Pittsburgh, Pa.  
Carolina Steel & Iron Co., Greensboro, N. C.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Converse Bridge & Steel Co., Chattanooga, Tenn.  
Dietrich Brothers, Baltimore, Md.  
Ingalls Iron Works Co., Birmingham, Ala.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Roanoke Iron & Bridge Works, Inc., Roanoke, Va.  
Ryerson & Son, Inc., Jas. T., St. Louis and New York City.  
Speed Architectural Iron Works, Louisville, Ky.  
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Virginia Bridge & Iron Co., Roanoke, Va.

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### SULPHIDE OF SODA.

Grasselli Chemical Co., Inc., Birmingham.

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Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.  
Cole Mfg. Co., E. D., Newman, Ga.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Schodfeld's Sons Co., J. S., Macon, Ga.  
Virginia Bridge & Iron Co., Roanoke, Va.

### —(Elevated Wood.)

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Davis & Son, G. M., Palatka, Fla.

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Birmingham Tank Co., Birmingham, Ala.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Birmingham.  
Cole Mfg. Co., E. D., Newman, Ga.  
Downingtown Iron Works, Downingtown, Pa.  
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McClintic-Marshall Co., Pittsburgh, Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Schodfeld's Sons Co., J. S., Macon, Ga.  
Titusville Iron Works Co., Titusville, Pa.  
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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
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Downingtown Iron Works, Downingtown, Pa.  
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Sweet's Steel Co., Williamsport, Pa.

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Caterpillar Tractor Co., Peoria, Ill.  
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Lunkenheimer Co., The, Cincinnati, Ohio.  
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U. S. Pipe & Foundry Co., Burlington, N. J.  
Wood & Co., R. D., Philadelphia, Pa.

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Charleston Dry Dock & Machine Co., Charleston, S. C.  
Hedges-Walsh-Weldner Co., Chattanooga, Tenn.  
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.  
United Welding Co., Middletown, O.

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Seneca Wire & Mfg. Co., Fostoria, O.

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Gulf States Steel Co., Birmingham, Ala.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

**—(Fence.)**

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Roebbing's Sons Co., John A., Trenton, N. J.  
Seneca Wire & Mfg. Co., Fostoria, O.

**—(Galvanized and Annealed.)**  
Gulf States Steel Co., Birmingham, Ala.  
Seneca Wire & Mfg. Co., Fostoria, O.

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Roebbing's Sons Co., John A., Trenton, N. J.  
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Seneca Wire & Mfg. Co., Fostoria, O.

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American Steel & Wire Co., Balto., Md.

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American Steel & Wire Co., Chicago, Ill.  
Roebbing's Sons Co., John A., Trenton, N. J.  
Seneca Wire & Mfg. Co., Fostoria, O.

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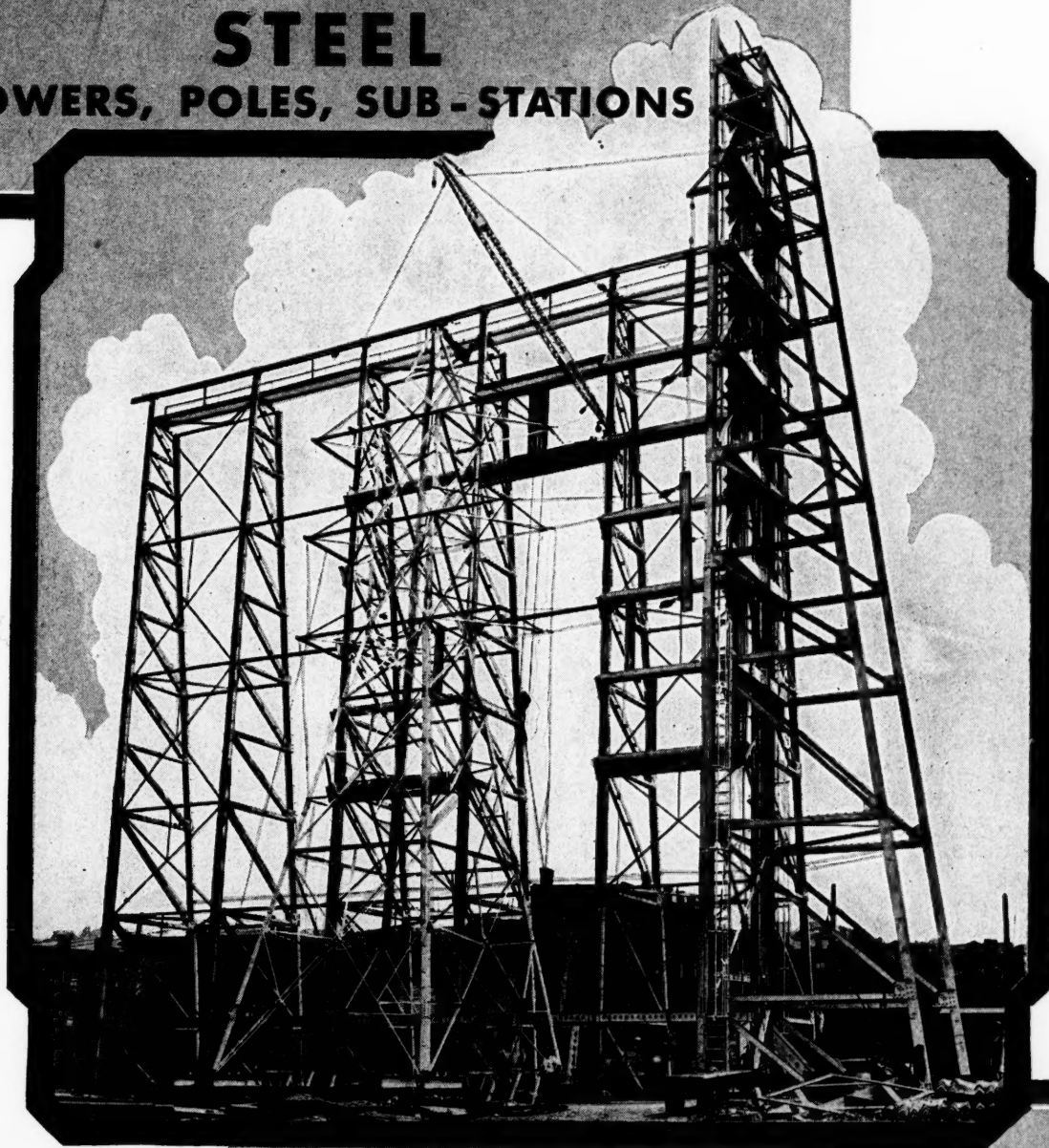
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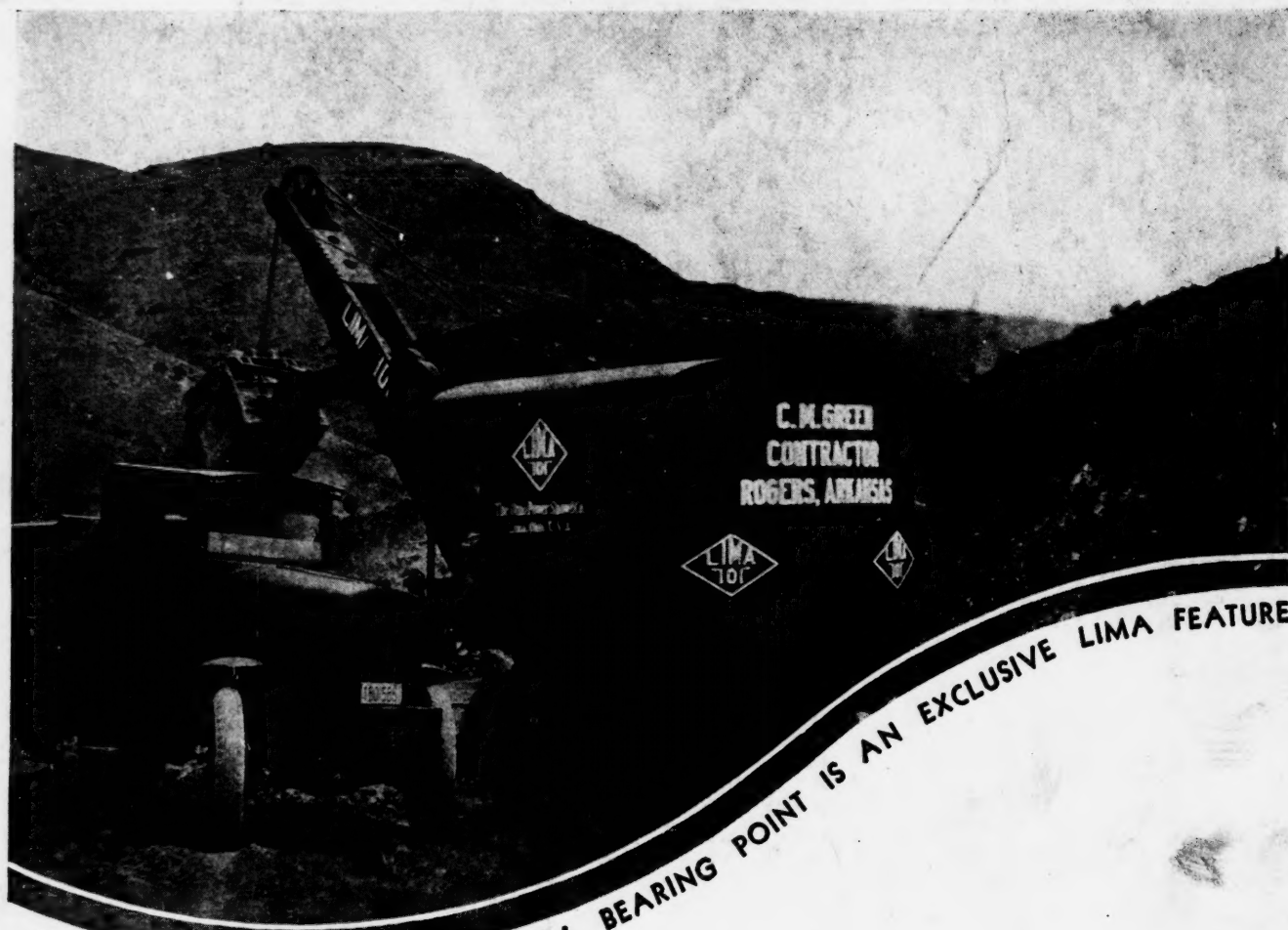
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